Click to prove you're human

Easy Diy Shed Building Plans Barn Shed RoofSaltbox Shed RoofGable Shed RoofYour shed roof framing is not as complicated as you might think. If you are like most people who attempt to build a shed, you probably have a good idea of how to do everything construction wise.Except of course the roof. Floor framing, wall framing, and building your door are not so difficult. But what about building the shed roof? How in the world will you figure out the truss or rafter angles for a gambrel style? Or a gable or even a saltbox style?Should you 'stick frame', or build 'trusses'? Which is easier, and which will be the sturdiest?What is a stick framed roof and how does it differ from a roof built with trusses? What is a stick framed shed roof?Roof framing with a Ridge BoardA stick framed roof uses 2x4's or 2x6's or whatever you are framing with, but has a ridge board running down the middle ridge line.You then have rafters running down from this ridge board and resting on the top wall plates. Sometimes the rafter will have a 'tail' and extend out past the wall so that you have a soffit, or overhang.A shed roof that is not stick framed will be built with trusses. Building a shed roof with trussesSample of Gambrel Truss PlansI have found in all my years of building sheds that using pre-built trusses is so much easier and simpler then building a shed roof with a ridge board, especially if you are building your outdoor shed yourself. Most of the assembly work can be done down on the ground!You can actually build a jig on your shed floor or any open flat floor that has enough room. Build one truss, check to see that it fits, and if it does, you are good to go with the rest of the trusses. You can build them all just as you did the first one, and they will all be identical. Simplify Truss Building With a Truss Jig!Gable Style Shed RoofGable Shed Roof FramingA gable style is the easiest to build, but offers very little storage in the attic. Unless of course you have a very steep pitch on your trusses or rafters. Then you will have more storage. The steeper the pitch though, the harder it is to put shingles on! However the one very important consideration with any shed roof is building a roof with too low of a pitch.Don't make this mistake when building your shed roof...A Shingled Low Pitch Shed Roof Is Going To Leak!I learned the hard way that when you are building your shed, and you are going to shingle it, you can't have a roof pitch lower than a 3/12. How did I learn this the hard way? I built a beautiful shed which was a lean to roof style. The roof pitch was actually 2/12. A few weeks later we had a horrendous rain storm and low and behold my shed roof on that shed was leaking like somebody turned on a water faucet in the attic!What went wrong I thought? After speaking with a nice gentlemen down at the local building department he informed me that if a roof, any roof, has a roof pitch less than 3/12 and it's going to be shingled it will leak water. No matter whether it rains or you have melting snow. It will leak.So what was the solution to fixing this water leaking problem with my roof I asked. He told me I had to tear off all the shingles and put down a rubber roofing membrane that would actually be glued to the roof sheeting, then I would be able to re-shingle it. Or I could just go ahead an put on a metal roof. So what I ended up doing was going with the rubber membrane then adding shingles.Not only did this mistake cause me to have to replace the roof, I also had some interior damage to the inside of the shed. Detailed guide to building a gable roof for your shed.Gambrel Roof FramingGambrel StyleMy absolute favorite of all shed roofs is the gambrel style. This style has two slopes as opposed to the gable or saltbox designs. This design offers the most storage space for a storage shed provided the side walls are 6 foot or more.Building a loft in the roof cavity is easy and provides much more storage space than either the gable or saltbox sheds.The Gambrel Style Shed Roof Offers The Largest Loft AreaHow to Frame a Gambrel Shed RoofSaltbox Shed RoofDo you want to build a shed that makes a perfect garden shed? The saltbox roof design offer lots of character and charm to the backyard. So much so that it is my very favorite style shed for a garden shed. Saltbox Roof FramingAdd bright colors for painting the exterior walls, and flower boxes under the windows and you have just a really neat garden shed that you can build in your wifes garden. It offers so much style and comfort to the garden that you can design the interior to be a sitting area just to relax in and enjoy the scenery of your beautiful garden or warm summer nights gazing up at the night sky.Guide to Building and framing a saltbox style roof.Three Important Considerations for Building a Shed RoofRoof PitchOne thing you never want to do when designing your roof is build one with a pitch lower than 3-12. This means that for every horizontal run of 12", you need at least 3" of rise. When you see this detail below, it is referring to the pitch of the roof.Roof PitchFor the shed roof pictured above, the back has a 5-12 pitch. If you have to go with a roof pitch less than 3-12, then it would either have to be a metal roof or a roof covered with a rubber membrane to prevent water penetration. Roof Pitch and Corresponding Angle of DegreeTurn in a set of building blueprints with a pitch less than 3-12, or build a shed style roof with a low pitch, and your building inspector will not pass the construction and provisions will have to be made to get the pitch up to acceptable standards if it is going to be shingled.Drip Edge and Felt PaperYour shed may not be a livable space, but none the less, it is a structure in which you are going to invest a good sum of money on and you want it to last as long as possible without having to do any major repairs to.Adding drip edge and felt paper to your roof before putting down the shingles is definitely an option, but an option you should not ignore. If you don't invest the little bit of money it will take for these two items, you are asking for trouble down the road.Drip Edge and Felt PaperEspecially if you live in an area of the country where snow and ice are prevelant during the winter months. Freezing and thawing can wreck absolute havoc on a shed roof if it doesn't have felt paper and drip edge installed.The underlayment will mostly rot over a period of time and you will be looking at an expense of replacing or repairing your roof. Be wise and add felt paper and drip edge to your shed.Drip edge should be installed over the felt paper on the rake edges or side roof edges, and under the felt paper on the bottom or horizontal edges. An added measure or protection would be to add ice and water peelable rubber membrane along the bottom edges of your roof.Hurricane TiesMany local counties across the country now require the use of hurricane ties for roof framing on homes, and your shed is no different. If heavy winds can damage a roof by uplifting the trusses on a house, think what it can do to a shed!Using Hurricane TiesHurricane ties are nailed on to the bottom of the rafter or truss, and to the top wall plates as shown in the picture above.If you're interested in building trusses for your shed, I do have some truss plans you can check out. You can find them here.Rafters vs. trusses for a shed: Which is better?What's the right slope for a shed roof?Different types of shed roofs you can build for your shed. Do you really need drip edge on your shed roof? As a professional shed builder, I can tell you that drip edge is a necessity. Shed floors and the different parts of a shed floor. How to use a speed square to easily make angle cuts for shed walls, floors, and trusses for building your shed.Enjoy this page? Please pay it forward. Here's how...Would you prefer to share this page with others by linking to it?Click on the HTML link code below.Copy and paste it, adding a note of your own, into your blog, a Web page, forums, a blog comment,your Facebook account, or anywhere that someone would find this page valuable.1Choose a style for your roof. There are many different roof styles used for building sheds. The most common styles include gable, gambrel, skillion, and saltbox roofs. Each of these roof types is sloped to provide runoff for precipitation, which means the design you go with will largely be a matter of aesthetic preference.[1]Gable roofs feature a single central peak, with two symmetrical sloped sides. They are most often spotted on houses.Gambrel roofs are the style traditionally used for barns. Each side of a gambrel roof has two sloped faces, the lower of which is either perpendicular or at a slight angle to the ground.Skillion roofs are one of the simplest roof styles used in shed-building. A skillion roof is made up of a single flat plane which slopes gradually from top to bottom.[2]Saltbox roofs look like skillion roofs, but with an extra short slope opposite the long angled plane, like an upside-down check mark. They aren't seen on sheds as frequently as other styles, but are still a popular choice. 2Determine your desired roof pitch. The term pitch refers to the slope of the roof. In order to adhere to standardized building codes and ensure adequate runoff, your sheds roof must have a pitch of at least 3-12 (read as three-in-twelve). Beyond that, youre free to choose whatever slope best fits your plans for your shed.A slope of 6-12, for example, means that for every 12 inches (30cm) of length, the angle of your roof rises 6 inches (15cm).The steeper the slope of your roof, the better it will deflect rain, sleet, snow, falling leaves, and other materials that find their way on top.Tip: Pull up a pitch calculator online to translate a given pitch into useful specifications like angle, grade, and rafter length.[3] Advertisement 3Mark the location of your rafters along the top of the shed. When installing rafters, its generally best to follow the same spacing as your wall studs. Use a carpenters pencil or felt-tipped marker to draw a line on your wall plate timbers where each set of rafters will go. In the majority of cases, they'll be about 2024 inches (5161cm) apart on center.[4]Proper placement of your rafters will maximize support while minimizing the overall amount of materials used.If your shed already has rafters in place and you just need to put in or replace the roof itself, you can skip straight to installing your new roofing materials. Advertisement 1Measure your rafter boards for your preferred roof style and pitch. The exact length and angle of your rafters will depend on the overall size of your shed, as well as the style and slope youve chosen. The rafters on a steeply-sloped roof, for instance, will be much longer and have more end cuts than those on a flat roof. Once youve determined the measurements you need, mark them directly onto a series of 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boards using a carpenters pencil.[5]If youre planning on building a gable roof with a pitch of 4-12 for a shed thats 200 inches (510cm) wide, your rafter boards would need to be 105.3 inches (267cm) long on each side.Dont forget to cut the ends of each board to the appropriate angle to allow them to fit together at the peak.Tip: To make the process as efficient as possible, either mark all of your boards at once or measure and cut one to use as a template for the others. 2Cut your rafter boards to size using a circular saw. Guide the blade over the end of the board slowly, aiming to make each cut as straight and precise as possible. Be sure to adjust your saws settings according to the necessary length and angle of your rafters.Take care of all of your sawing at one time. You can then move on to assembling the rafters into trusses and attaching them to your shed frame.3Make a birdsmouth notch at the end of each rafter to help it fit into place. A birdsmouth notch is an angled cut that allows a rafter to sit level on top of a wall plate rather than balancing on top. Position your rafter boards at the same angle as your roofs pitch, then draw a 90-degree angle up from the bottom edge of each board, with the lines corresponding to the height and width of the wall plate, respectively. Cut along these lines to make the notch.[6]You can also figure out the angle for your birdsmouth notch by placing a piece of scrap wood the same width as the distance between the rafter and the wall plate beside your rafter beam and tracing it onto one side of the beam.[7]Note that your notches will need to be higher up on your rafter beams if youre planning on including an overhang.4Assemble your rafter halves into trusses using plywood gusset plates. Trace the upper 810 inches (2025cm) of your rafter peak onto a sheet of 12in (1.3cm) plywood and cut out the triangular plate with a skill saw. Apply a thin layer of construction adhesive to the backside of each plate, then align it with the joint where two rafter boards and press it firmly into place. Secure the plates by driving 2-3 nails or wood screws through the plate on either side.[8]Gussets serve to reinforce connection sites between individual wood members, lending added strength and durability.5Attach the end rafters to the wall plates of your shed frame. Lower the first rafter truss into place at either the front or back of the shed. Fasten the truss by driving 8D finishing nails at an angle down through the board just above the birdsmouth notch and into the underlying wall plate. Use 3 nails for each side. When youre done, install the opposing truss in the same fashion.[9]Make sure the birdsmouth notches seat securely over the wall plates, and that the outer edge of the truss is flush with the outer edge of the wall.If youre working alone, nail an unused 2in (5.1cm) x 4in (10cm) vertically to both ends of your shed. This will help hold your end trusses upright while you focus on positioning on the wall plates.[10]6Run a string between your end trusses to help you set the other rafters. Drive a nail straight down into one of your rafter peaks and wrap the string around it a few times. Pull the string taut and anchor it around a second nail on the opposite end of the shed. The string will serve as a visual guide to help you make sure the rest of your rafters are set and centered correctly.[11]If you dont want to leave nail holes in your rafters, you can also tie a knot at both ends of the string and tuck the knots into the joints where the boards of the rafter peaks meet.Pull your centering string tight enough to be perfectly straight, but not so tight that it places strain on your end rafters.7Set your remaining rafters using your centering string for reference. Work your way from one end of the shed to the other putting your rafter trusses in place and checking their alignment against the string. When youre satisfied with the positioning of a truss, toe-nail it using 8D finishing nails the way you did your end rafters, then move on to the next truss.[12]Ideally, you should have a helper around to hand you up every next truss whenever youre ready for it.Dont forget to remove your centering string once you have all of your rafters installed successfully. Advertisement 1Cover your rafter trusses with plywood sheathing. Put down your first sheet of plywood at the corner of one end of the roof. Make sure its lying horizontally across the exposed rafters, and that the edges are flush with the edges of the end rafters. Drive a nail into each corner of the plywood to hold it in place temporarily.[13]Most constructions experts recommend using 716in (1.1cm) oriented strand board (OSB) for small-scale roofing projects.[14]Plywood sheathing will provide structural support for your new roof, as well as give you a flat, stable surface to attach your other roofing materials too.2Measure and cut additional plywood to fill in any gaps in the sheathing. Plywood is sold in large sheets, which means that youll most likely need to use multiple sheets and cut them to fit. Try to cover the remaining space using as few pieces as possible, starting from the lower portion of the roof.[15]Its important to cut your plywood so that the end of each section covers half the width of the rafter its resting on. That way, the neighboring section will fit in easily beside it, and youll have a nice solid surface to nail into.[16]Make all your cuts with your plywood oriented the same way to ensure that the strand grain is running in a single direction. A consistent grain pattern will increase the strength of your roof sheathing.3Fasten your plywood sheathing to the rafters using 8D finishing nails. Drive nails every 6 inches (15cm) through the face of the plywood and down into the rafter below. Work your way up the length of each rafter from the bottom edge. When youre done, look for any loose sections of plywood that may require additional nails.[17]For the sake of caution, do your fastening from your ladder, reaching as far as you can safely with your hammer or roofing nailer.The combined strength of the OSB and supporting rafters will be capable of withstanding weights of up to several hundred pounds.Warning: Avoid climbing onto the roof until the plywood has been completely secured from the bottom. 4Cut fascia boards to finish the edges of your roof. Once you have the sheathing in place, your final task will be to mount fascia boards to cover the exposed ends of your rafters. Cut your 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) to match the length of the shed. Fasten the fascia boards by nailing them to the end face of every other rafter using 8D finishing nails.[18]Youll need to put up 2 fascia boards for gable, gambrel, skillion, and saltbox and other slanted roof styles1 for each sloped edge. For flat roofs, it will look best to install a fascia board on every side.When cutting your fascia boards, be sure to use the same size lumber as you did for your rafters to guarantee an exact fit.[19] Advertisement 1Attach strips of felt roofing paper for baseline protection. Line up the loose edge of the roll with one of the bottom corners of your roof and fasten it using 10-12 staples grouped closely together near the center of the strips edge. Gradually unroll the paper across the rooftop, stopping to add more staples every 12 feet (0.300.61m). Depending on the size of your roof, you may need to cut excess paper from the end of each strip using a straightedge and utility knife.[20]To ensure complete coverage, make sure the bottom edge of each strip overlaps the top of the strip below it by at least 2 inches (5.1cm), and that all strip ends overlap by at least 4 inches (10cm).Double-check that your roofing felt is straight, flush, and wrinkle-free before stapling it down.Roofing felt can be used on its own as a cheap and easy surfacing solution or as a preliminary substrate for attaching asphalt shingles.2Install asphalt shingles on your roof for an attractive traditional look.[21] Cut several full-sized shingles in half widthwise with the aid of a straightedge and utility knife and nail them along the bottom edge of your roof. These will serve as a starter strip. Proceed to install the remaining shingles from bottom to top in rows offset by 1 tile's width. Secure each shingle at the top using three 1in (2.5cm) roofing nails.[22]Use a chalk line or straightedge and framing square to ensure that your rows remain neat and orderly all the way across your roof.Make sure the top and bottom of each row overlap by 2 inches (5.1cm).3Put in a corrugated metal roof for a more durable, customizable option. Cut your sheet metal to size using tin snips, power shears, or an electric nibbler tool. Lay out each section vertically, so that the ridges slope toward the groundthis will create runoff. Fasten each sheet by driving sharp metal roofing screws into both sides of the ridges down the length of the underlying rafter.[23]You can find a wide selection of metal roofing options in various materials, styles, and colors at your local home improvement center.One of the biggest downsides of metal roofing is that the surface is vulnerable to rust and corrosion, which means it will need to be painted over every 2-3 years in order to maintain its appearance.4Try out EPDM rubber roofing for a simple and inexpensive covering. Load a paint roller with high-strength construction adhesive and brush the glue onto your plywood substrate in 35ft (0.911.52m) strips. Then, pause and unroll enough rubber sheeting to fit over the glued area. Continue until youve covered the entire roof, then trim the excess material from the edges using a straightedge and utility knife.[24]Apply your rubber sheeting carefully and take a few moments to smooth the surface afterwards to make sure its free of wrinkles, creases, or bubbles.EPDM is sold in large rolls that are designed to be draped over a roof in a single sheet and cut to fit. You can usually pick up a 10ft (3.0m) x 10ft (3.0m) roll for around $100. Advertisement Ask a Question Advertisement Measuring tape or rulerCarpenters pencil or felt-tipped markerOnline pitch calculator (optional)2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular saw 12in (1.3cm) plywood sheetsSkill sawConstruction adhesiveHammer4D nails8D finishing nailsMeasuring tapeCarpenters pencilStringCordless drill and wood screws (optional) 716in (1.1cm) oriented strand board2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular or skill sawStaple gun11.5in (2.53.8cm) galvanized staples8D finishing nailsMeasuring tapeStraightedge15lb (6.8kg) felt roofing paperAsphalt shinglesRoofing nailer1in (2.5cm) roofing nailsChalk line or framing squareCorrugated sheet metal10ft (3.0m) x 10ft (3.0m) roll of EPDM rubber roofingMeasuring tapeStraightedgeUtility knife Co-authored by: Roofing Contractor & Maintenance Professional This article was co-authored by David Bitan. David Bitan is a roofing professional, licensed contractor, and the owner and founder of Bumble Roofing based in Southern California. With over 12 years of construction industry experience, David specializes in restoring, repairing, and maintaining residential, commercial, and industrial roofs. With over 60 years of combined experience, Bumble Roofing provides easy, friendly services to structures including residential, commercial, industrial, multi-family, and government buildings along with hospitals, hotels, and churches. This article has been viewed 355,470 times. Co-authors: 22 Updated: June 4, 2025 Views:355,470 Categories: Building Roofs | Sheds PrintSend fan mail to authors Thanks to all authors for creating a page that has been read 355,470 times. 1Choose a style for your roof. There are many different roof styles used for building sheds. The most common styles include gable, gambrel, skillion, and saltbox roofs. Each of these roof types is sloped to provide runoff for precipitation, which means the design you go with will largely be a matter of aesthetic preference.[1]Gable roofs feature a single central peak, with two symmetrical sloped sides. They are most often spotted on houses.Gambrel roofs are the style traditionally used for barns. Each side of a gambrel roof has two sloped faces, the lower of which is either perpendicular or at a slight angle to the ground.Skillion roofs are one of the simplest roof styles used in shed-building. A skillion roof is made up of a single flat plane which slopes gradually from top to bottom.[2]Saltbox roofs look like skillion roofs, but with an extra short slope opposite the long angled plane, like an upside-down check mark. They aren't seen on sheds as frequently as other styles, but are still a popular choice. 2Determine your desired roof pitch. The term pitch refers to the slope of the roof. In order to adhere to standardized building codes and ensure adequate runoff, your sheds roof must have a pitch of at least 3-12 (read as three-in-twelve). Beyond that, youre free to choose whatever slope best fits your plans for your shed.A slope of 6-12, for example, means that for every 12 inches (30cm) of length, the angle of your roof rises 6 inches (15cm).The steeper the slope of your roof, the better it will deflect rain, sleet, snow, falling leaves, and other materials that find their way on top.Tip: Pull up a pitch calculator online to translate a given pitch into useful specifications like angle, grade, and rafter length.[3] Advertisement 3Mark the location of your rafters along the top of the shed. When installing rafters, its generally best to follow the same spacing as your wall studs. Use a carpenters pencil or felt-tipped marker to draw a line on your wall plate timbers where each set of rafters will go. In the majority of cases, they'll be about 2024 inches (5161cm) apart on center.[4]Proper placement of your rafters will maximize support while minimizing the overall amount of materials used.If your shed already has rafters in place and you just need to put in or replace the roof itself, you can skip straight to installing your new roofing materials. Advertisement 1Measure your rafter boards for your preferred roof style and pitch. The exact length and angle of your rafters will depend on the overall size of your shed, as well as the style and slope youve chosen. The rafters on a steeply-sloped roof, for instance, will be much longer and have more end cuts than those on a flat roof. Once youve determined the measurements you need, mark them directly onto a series of 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boards using a carpenters pencil.[5]If youre planning on building a gable roof with a pitch of 4-12 for a shed thats 200 inches (510cm) wide, your rafter boards would need to be 105.3 inches (267cm) long on each side.Dont forget to cut the ends of each board to the appropriate angle to allow them to fit together at the peak.Tip: To make the process as efficient as possible, either mark all of your boards at once or measure and cut one to use as a template for the others. 2Cut your rafter boards to size using a circular saw. Guide the blade over the end of the board slowly, aiming to make each cut as straight and precise as possible. Be sure to adjust your saws settings according to the necessary length and angle of your rafters.Take care of all of your sawing at one time. You can then move on to assembling the rafters into trusses and attaching them to your shed frame.3Make a birdsmouth notch at the end of each rafter to help it fit into place. A birdsmouth notch is an angled cut that allows a rafter to sit level on top of a wall plate rather than balancing on top. Position your rafter boards at the same angle as your roofs pitch, then draw a 90-degree angle up from the bottom edge of each board, with the lines corresponding to the height and width of the wall plate, respectively. Cut along these lines to make the notch.[6]You can also figure out the angle for your birdsmouth notch by placing a piece of scrap wood the same width as the distance between the rafter and the wall plate beside your rafter beam and tracing it onto one side of the beam.[7]Note that your notches will need to be higher up on your rafter beams if youre planning on including an overhang.4Assemble your rafter halves into trusses using plywood gusset plates. Trace the upper 810 inches (2025cm) of your rafter peak onto a sheet of 12in (1.3cm) plywood and cut out the triangular plate with a skill saw. Apply a thin layer of construction adhesive to the backside of each plate, then align it with the joint where two rafter boards and press it firmly into place. Secure the plates by driving 2-3 nails or wood screws through the plate on either side.[8]Gussets serve to reinforce connection sites between individual wood members, lending added strength and durability.5Attach the end rafters to the wall plates of your shed frame. Lower the first rafter truss into place at either the front or back of the shed. Fasten the truss by driving 8D finishing nails at an angle down through the board just above the birdsmouth notch and into the underlying wall plate. Use 3 nails for each side. When youre done, install the opposing truss in the same fashion.[9]Make sure the birdsmouth notches seat securely over the wall plates, and that the outer edge of the truss is flush with the outer edge of the wall.If youre working alone, nail an unused 2in (5.1cm) x 4in (10cm) vertically to both ends of your shed. This will help hold your end trusses upright while you focus on positioning on the wall plates.[10]6Run a string between your end trusses to help you set the other rafters. Drive a nail straight down into one of your rafter peaks and wrap the string around it a few times. Pull the string taut and anchor it around a second nail on the opposite end of the shed. The string will serve as a visual guide to help you make sure the rest of your rafters are set and centered correctly.[11]If you dont want to leave nail holes in your rafters, you can also tie a knot at both ends of the string and tuck the knots into the joints where the boards of the rafter peaks meet.Pull your centering string tight enough to be perfectly straight, but not so tight that it places strain on your end rafters.7Set your remaining rafters using your centering string for reference. Work your way from one end of the shed to the other putting your rafter trusses in place and checking their alignment against the string. When youre satisfied with the positioning of a truss, toe-nail it using 8D finishing nails the way you did your end rafters, then move on to the next truss.[12]Ideally, you should have a helper around to hand you up every next truss whenever youre ready for it.Dont forget to remove your centering string once you have all of your rafters installed successfully. Advertisement 1Cover your rafter trusses with plywood sheathing. Put down your first sheet of plywood at the corner of one end of the roof. Make sure its lying horizontally across the exposed rafters, and that the edges are flush with the edges of the end rafters. Drive a nail into each corner of the plywood to hold it in place temporarily.[13]Most constructions experts recommend using 716in (1.1cm) oriented strand board (OSB) for small-scale roofing projects.[14]Plywood sheathing will provide structural support for your new roof, as well as give you a flat, stable surface to attach your other roofing materials too.2Measure and cut additional plywood to fill in any gaps in the sheathing. Plywood is sold in large sheets, which means that youll most likely need to use multiple sheets and cut them to fit. Try to cover the remaining space using as few pieces as possible, starting from the lower portion of the roof.[15]Its important to cut your plywood so that the end of each section covers half the width of the rafter its resting on. That way, the neighboring section will fit in easily beside it, and youll have a nice solid surface to nail into.[16]Make all your cuts with your plywood oriented the same way to ensure that the strand grain is running in a single direction. A consistent grain pattern will increase the strength of your roof sheathing.3Fasten your plywood sheathing to the rafters using 8D finishing nails. Drive nails every 6 inches (15cm) through the face of the plywood and down into the rafter below. Work your way up the length of each rafter from the bottom edge. When youre done, look for any loose sections of plywood that may require additional nails.[17]For the sake of caution, do your fastening from your ladder, reaching as far as you can safely with your hammer or roofing nailer.The combined strength of the OSB and supporting rafters will be capable of withstanding weights of up to several hundred pounds.Warning: Avoid climbing onto the roof until the plywood has been completely secured from the bottom. 4Cut fascia boards to finish the edges of your roof. Once you have the sheathing in place, your final task will be to mount fascia boards to cover the exposed ends of your rafters. Cut your 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) to match the length of the shed. Fasten the fascia boards by nailing them to the end face of every other rafter using 8D finishing nails.[18]Youll need to put up 2 fascia boards for gable, gambrel, skillion, and saltbox and other slanted roof styles1 for each sloped edge. For flat roofs, it will look best to install a fascia board on every side.When cutting your fascia boards, be sure to use the same size lumber as you did for your rafters to guarantee an exact fit.[19] Advertisement 1Attach strips of felt roofing paper for baseline protection. Line up the loose edge of the roll with one of the bottom corners of your roof and fasten it using 10-12 staples grouped closely together near the center of the strips edge. Gradually unroll the paper across the rooftop, stopping to add more staples every 12 feet (0.300.61m). Depending on the size of your roof, you may need to cut excess paper from the end of each strip using a straightedge and utility knife.[20]To ensure complete coverage, make sure the bottom edge of each strip overlaps the top of the strip below it by at least 2 inches (5.1cm), and that all strip ends overlap by at least 4 inches (10cm).Double-check that your roofing felt is straight, flush, and wrinkle-free before stapling it down.Roofing felt can be used on its own as a cheap and easy surfacing solution or as a preliminary substrate for attaching asphalt shingles.2Install asphalt shingles on your roof for an attractive traditional look.[21] Cut several full-sized shingles in half widthwise with the aid of a straightedge and utility knife and nail them along the bottom edge of your roof. These will serve as a starter strip. Proceed to install the remaining shingles from bottom to top in rows offset by 1 tile's width. Secure each shingle at the top using three 1in (2.5cm) roofing nails.[22]Use a chalk line or straightedge and framing square to ensure that your rows remain neat and orderly all the way across your roof.Make sure the top and bottom of each row overlap by 2 inches (5.1cm).3Put in a corrugated metal roof for a more durable, customizable option. Cut your sheet metal to size using tin snips, power shears, or an electric nibbler tool. Lay out each section vertically, so that the ridges slope toward the groundthis will create runoff. Fasten each sheet by driving sharp metal roofing screws into both sides of the ridges down the length of the underlying rafter.[23]You can find a wide selection of metal roofing options in various materials, styles, and colors at your local home improvement center.One of the biggest downsides of metal roofing is that the surface is vulnerable to rust and corrosion, which means it will need to be painted over every 2-3 years in order to maintain its appearance.4Try out EPDM rubber roofing for a simple and inexpensive covering. Load a paint roller with high-strength construction adhesive and brush the glue onto your plywood substrate in 35ft (0.911.52m) strips. Then, pause and unroll enough rubber sheeting to fit over the glued area. Continue until youve covered the entire roof, then trim the excess material from the edges using a straightedge and utility knife.[24]Apply your rubber sheeting carefully and take a few moments to smooth the surface afterwards to make sure its free of wrinkles, creases, or bubbles.EPDM is sold in large rolls that are designed to be draped over a roof in a single sheet and cut to fit. You can usually pick up a 10ft (3.0m) x 10ft (3.0m) roll for around $100. Advertisement Ask a Question Advertisement Measuring tape or rulerCarpenters pencil or felt-tipped markerOnline pitch calculator (optional)2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular saw 12in (1.3cm) plywood sheetsSkill sawConstruction adhesiveHammer4D nails8D finishing nailsMeasuring tapeCarpenters pencilStringCordless drill and wood screws (optional) 716in (1.1cm) oriented strand board2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular or skill sawStaple gun11.5in (2.53.8cm) galvanized staples8D finishing nailsMeasuring tapeStraightedge15lb (6.8kg) felt roofing paperAsphalt shinglesRoofing nailer1in (2.5cm) roofing nailsChalk line or framing squareCorrugated sheet metal10ft (3.0m) x 10ft (3.0m) roll of EPDM rubber roofingMeasuring tapeStraightedgeUtility knife Co-authored by: Roofing Contractor & Maintenance Professional This article was co-authored by David Bitan. David Bitan is a roofing professional, licensed contractor, and the owner and founder of Bumble Roofing based in Southern California. With over 12 years of construction industry experience, David specializes in restoring, repairing, and maintaining residential, commercial, and industrial roofs. With over 60 years of combined experience, Bumble Roofing provides easy, friendly services to structures including residential, commercial, industrial, multi-family, and government buildings along with hospitals, hotels, and churches. This article has been viewed 355,470 times. Co-authors: 22 Updated: June 4, 2025 Views:355,470 Categories: Building Roofs | Sheds PrintSend fan mail to authors Thanks to all authors for creating a page that has been read 355,470 times. For most do-it-yourselfers, framing the roof is the most challenging part of building a shed. But with a little understanding of roof styles, terminology and construction, roof framing is well within the capabilities of any weekend carpenter.In this article, we will discuss five different shed roof designs, detailing the framing and pitch for each, and provide step-by-step instructions on how to build a shed roof in the style of your choice.Speed the job of framing the roof by prefabricating the roof trusses on the ground. Then lift each truss into place and screw it to the walls.The second option is to build the roof frame on the ground to form individual roof trusses. A roof truss is a prefabricated section of the roof frame that consists of a pair of angled rafters and one horizontal bottom chord, which forms the ceiling joist. Once assembled, the trusses are lifted and fastened to the tops of the walls. Building and installing trusses is quicker and easier than piecemeal framing, but youll need help lifting the trusses into place.What is the cheapest way to roof a shed?Here are a few of the most affordable options for roofing a shed:Asphalt shingles Asphalt shingles are one of the most popular and budget-friendly roofing materials for sheds. They come in various colors and styles, are easy to install, and durable. Asphalt shingles cost $1-3 per square foot installed.Metal roofing Metal roofs like corrugated tin or steel panels are lightweight, easy to install, and can last decades. Metal roofing costs $3-6 per square foot installed. Look for lightweight steel or aluminum panels to keep costs down.Roll roofing Roll roofing is a very cheap roofing material made of asphalt soaked fiberglass. At around $1 per square foot, its easy to install but only lasts 10-15 years. It works best on sheds with a shallow pitch.Wood shingles or shakes Wood shingles cost $3-9 per square foot but can last 30+ years with proper maintenance. They come in cedar and other rot-resistant woods. You can also use cheaper wood, like pine, and treat it for rot resistance.The cheapest option is roll roofing. But for long-lasting value, asphalt or metal roofing are great budget-friendly choices. Look for lightweight materials and simple roof shapes to save on installation costs too. Properly installing roofing yourself rather than hiring a roofer will also save substantially.What is a Shed Style RoofA shed style roof, also known as a skillion or lean-to roof, is a roof that slopes down in one direction. It is flat with a steep slope. Depending on the design of the building, the slope can vary in how steep it is. While it was previously only used for sheds, it has become more popular to use on houses. The design is simple and cost-effective. It is easier and faster for a roofer to build this roof style which equals fewer labor costs. It is important to properly insulate this roof as it can get very hot or cold with the different seasons.Lean-to Roof ShedShed roof slopeA shed roof has a single sloping plane, making it the simplest of all roof frames to build. This style roof can be used on a freestanding outbuilding but is particularly well suited for sheds that are built up against another structure, such as a house, garage, stable, or barn. In those situations, a horizontal ledger board is fastened to the existing wall to support the upper ends of the rafters. Shed roofs normally have a relatively shallow slope, usually between 4-in-12 (18) and 8-in-12 (33).Pros:Inexpensive to buildWalls protected from wet weather by the roof overhangRain and snow slides off easily, especially with higher slopesHigher wall height affords space for loft or attic storageGood space for solar panelsEasy build for beginnersCons:Unable to construct anything above a lean-to roofSome routine maintenance is neededTip: When deciding on the slope of a shed roof, take into account the position of the doors. A steeply pitched roof comes down lower into the doorway than a slightly less-steep roof, and that could Gable Roof ShedGable roof designA gable roof is by far the most common style of shed roof. Its easily identified by its familiar A-shaped profile that has two sloping planes of equal length. Gable roofs are formed by pairs of common rafters that run at an angle from the tops of the walls up to the roof peak. A ridge board, if used, runs horizontally between the pairs of rafters where they meet at the peak.Check your shed plans for the exact size and spacing of the lumber used to frame the roof. Most storage sheds are framed with 24 or 26 rafters, spaced 16 in. on center. The ridge board is often cut from a 16 or 18. When framing a roof with site-built trusses, you dont need a ridge board. The rafters fit together tightly at the peak and are secured with plywood gusset plates.Pros:A common roof typeHas extra space above the ceiling for a loft, storage, or headroomSheds rain and snow easily, especially with a higher slopeAn easy build for a beginnerRelatively low costs of buildingCons:Prone to damage by very high winds (may require additional support)Tip: Gable shed roofs look best with a roof slope of either 11-in-12 (40) or 12-in-12 (45).Saltbox Roof ShedSaltbox roof designA saltbox roof is similar to a gable roof except that one roof plane is slightly longer than the other. This unique design shifts the roof peak off-center so that its closer to the front wall, thus creating the distinctive saltbox roof. When framing a saltbox roof its important to follow two simple guidelines to maintain the roofs proper proportions: First, run the rafters at 45 to create a 12-in-12 roof slope. Second, position the peak of the roof one-third of the way back from the front wall.Pros:Suited for cold weather conditions, heavy show and rainStrong and relatively easy to maintainCons:Slanted ceilings minimize attic spaceMore complicated to design and build than, say, a gable-style roofTip: When framing the roof of a shed, be sure to set each rafter directly over a wall stud, which will transfer the roof load down to the foundation.Gambrel Roof ShedGambrel roof designThis design is often called a barn roof and is easily recognized by its distinctive double-sloping profile. It has two short, shallow roof planes that angle down from the peak, and then it breaks sharply to two steeper slopes that extend down to the tops of the walls. A gambrel roof is slightly more difficult to frame than other roof styles simply because it contains many more parts. The advantage though is that gambrel roofs create a very spacious interior with plenty of headroom above the ceiling joists, which can be utilized as a storage loft. Like most roof styles, a gambrel can be framed piecemeal one board at a time, or you can build trusses on the ground and then lift them into place.Pros:More storage space than other roof typesGreat water drainageSuitable for almost any roofing materialCons:Not very beginner-friendly to buildA relatively flat top slope can create show accumulationNot suitable for high windsTip: When building a shed with a gambrel roof, its best to place the doors on the end wall because the sidewalls are typically too short to provide adequate headroom.Hip Roof ShedHip roof designA hip roof is a roof with a slope on all sides of the shed. They all have an equal length and come together to form the ridge. This roof has no gable or peak at the top. They can be a sturdy roof because of the four sloping sides. They do well in high wind and snowy areas because of the slant of the roof. However, hip roofs can be pricey to construct. With a more complex design, more building materials are needed.Pros:Built to withstand windy and snowy weather conditionsCan be combined with other roof types to create unique designsCons:The complexity of the structure makes it harder to buildMore expensive than other roof typesWhat is the Best Roof For a Shed?Taking into consideration durability, cost, and the level of difficulty, lean-to, and gable roofs are the best for sheds. That being said, there is no correct answer as the choice depends highly on your preferences, budget, and weather conditions typical of where you live.What You Need to Know About Shed Roof PitchA pitch on a shed roof indicates how steep the roof is. There is no one answer to what pitch is the best since it depends solely on your preferences and the style of the shed roof. Generally, a higher pitch will ensure a better snow and rain run-off.What is the minimum pitch for a shed roof?For a shed roof, its recommended not to go lower than a 3:12 pitch. This marking means that for every 12 inches of horizontal run, a roof rises 3 inches. A 3:12 roof is about a 14-degree angle.What is the most common roof pitch for a shed?One of the most common roof pitches for a shed is 7:12, which is about 30 degrees. These shallow roof types are typical for lean-to-shed roofs. You can go steeper than that but keep in mind that the steeper your roof is, the more difficult it will be to install shingles.What Are Best Shed Roof Materials?There are different types of roofing materials you can choose as you prepare to put the finishing touches on your roof.Three-tab shingles This is the standard, and it is also the most inexpensive option for a shed roof. The shingles are easy to install, which makes them a great do-it-yourself option. Many will include a warranty that lasts as long as 30 years.Metal Metal roofs have a lot of advantages. They are lightweight, and they often last longer than other types of roofing materials. They are weather-resistant, which is a great benefit. The only real drawback to metal is that it can be costly, but a lot of these roofing systems have 50+ year warranties.Cedar shakes When cedar is maintained correctly, it can last for as long as 35 years. This material is naturally insect-resistant, and it also resists damage from the sun. It has a traditional appearance, and it could be an excellent option for those looking to pay mid-range prices for their roofing materials.Asphalt Shingles Architectural shingles are two or more layers of asphalt that have been laminated together.

professional. Cut the lean to shed roof rafters to size based on distance between the front and back walls PLUS the desired overhang at the front and back. For example, if you have a 10 shed (front wall to back wall), and a desire a 3 overhang on the front, and a 1 overhang on the back, cut your roof rafters to 14. Cut the lean to shed roof rafters to size with a miter or circular saw When considering what size lumber to use for your lean to shed roof rafters, consider the span from front wall to back wall of the shed. For spans 4 6, 2x4 rafters should be fine. For spans ranging from 4 10, 2x6 roof rafters are recommended. For spans larger than 10, consult a rafter span chart. Can I use 24 lumber for my lean to shed roof rafters? Yes However, 24 rafters should only be used for spans less than 9 feet (assuming a 12 o.c. rafter spacing) Important Note: Consult with local code requirements regarding roof rafter sizing and span requirements. Areas with high snow loads will likely require larger roof rafters. After determining the length of the lean to roof rafters, spend some time thinking about your shed roof rafter spacing. Roof rafters are typically spaced 12, 16, or 24 O.C. (On center). However, you want to make adjustments as needed to ensure that the edges of your plywood roof decking will land in the center of a roof rafter. For the 10x10 lean to shed roof that was constructed as the example for this article, the following rafter spacing was used. Sample Lean to Roof Rafter Spacing for 1010 shed In order to frame the lean to roof example displayed above, thirteen (13) pieces of 2x6x16 lumber were needed. Determine the shed roof rafter spacing based on the size and desired rafter overhang for your specific lean to shed. At this stage, birdsmouth cuts will be made for all of the lean to roof rafters that will rest on the shed walls. A birdsmouth cut is small triangular cutout/nothch in the bottom (and also the top for lean to style roofs) of a rafter that provides a flat area so that the rafter can rest flat and securely on the wall top plate. See example of a birdsmouth cut below: Example of a Birdsmouth cut in a roof rafter Refer to the figure below for the anatomy of a birdsmouth cut: The Anatomy of a lean to roof rafter birdsmouth cut Your birdsmouth cut will be dictated by the shed roof pitch established previously. To make the birdsmouth cuts, I recommend that you first place a rafter on the shed roof as shown below: Preliminarily Place a Shed Roof Rafter in Place In order to mark and cut the birdsmouths on the rafters, it is recommended that you first mark your desired overhang (over the back wall of the shed) on the back of the rafter as shown below: Measure the overhang distance from the back of the rafter After marking the overhang distance from the back of the rafter, position the rafter so that that the marked line is perfectly in line with the top plate. Position the rafter so that that the marked line is perfectly in line with the top plate. After positioning the back of the lean to shed rafter in place, move to the front of the rafter and mark the back of the birdsmouth cut where it lines up with the double wall plate, as shown. Mark the Birdsmouth Cut on the Front of the lean to shed roof rafter as shown With the location of the back of the birdsmouth cut marked at both the front and back of the rafter, you can begin making your birdsmouth cuts. We will start by making the birdsmouth cut at the back of the rafter as shown below: The birdsmouth cut at the back of the roof rafter will look like this In order to make the birdsmouth cut, utilize a carpenters square. Start by making a straight line mark across the entire rafter along the line you marked previously (that corresponds to the back of the top plate). Mark the back of the bridsmouth cut on the rafter Next, mark 3-1/2 in front of the original mark (towards the front of the shed/rafter) to account for the 2x4 top plate. Note that a standard 2x4 piece of lumber is actually 1.5x3.5. Mark 3.5 in front of the previously marked line As illustrated below, this mark 3-1/2 away from the original mark will illustrate where the rafter will intersect with the top plate. The shed rafter will rest on the top plate as shown Next, rotate/pivot the carpenters square along the pivot point until the 2 is in line with the bottom of the rafter. This 2 indicates a 2:12 Rafter/Roof Pitch which we will be using for this example. Rotate the carpenters square to the 2 (or as needed for your roof pitch) Once the 2 is in line with the bottom of the rafter, mark the diagonal line. Mark the diagonal line on the rafter indicating the 2:12 pitch Once you have the diagonal line marked, use a framing square and position it along the rafter until it is parallel with the diagonal line that you marked in the previous step. Position the Framing Square so that is is parallel with the diagonal line previously Slide the framing square down the rafter while keeping it in line (parallel) with the diagonally marked line. Keep adjusting the carpenters square until it hits the other mark made 3-1/2 away from the birdsmouth mark at the back. Mark the line along the carpenters square as shown above Once the bottom of the carpenters square hits the line that was made 3-1/2 away from the original mark, use a pencil to mark this line. The image above shows the shaded area of the birdsmouth that needs to be cut out At this stage, the birdsmouth cut at the back of the rafter has been marked. The shaded area (above) indicates the part of rafter that we will need to cut out to make the birdsmouth. Use a circular saw to cut out the Seat and Heel of the birdsmouth as shown below. Use a circular saw, jigsaw, or hand saw to make the birdsmouth Heel cut Use a circular saw, jigsaw, or hand saw to make the birdsmouth Seat cut Because these cuts are small, you will likely need to clean up the inside corners of the birdsmouth cuts with a hand saw or jigsaw. Clean up the Birdsmouth Cuts with a hand saw or jigsaw as needed Below is a look at a completed birdsmouth cut on the back of the shed rafter: Completed birdsmouth cut on the back of the lean to shed roof rafter Below is a look at how the birdsmouth cut that rest on the back wall of the shed will look once installed: Example of the the Birdsmouth cut will rest on the shed wall top plate After completing the bridsmouth cut at the back of the rafter, move to the front of the rafter and prepare to make the birdmouth cut that will rest on the front wall of the shed. Prepare to make the birdsmouth cut at the front of the shed roof rafter To make the birdsmouth cut at the front of the rafter, you will follow the exact same steps that were performed for the birdsmouth cut at the back of the rafter. As a reminder: Mark the back line of the birdsmouth cut as a refernce line using a carpenters square. Mark the front of the birdsmouth cut 3-1/2 in front of the back line for the birdsmouth cut and mark the reference line using a carpenters square. Place the pivot point of the carpenters square on back mark of the birdsmouth cut and pivot the square until the 2 line intersects with the bottom of the rafter. Mark this diagonal line on the rafter. Use a framing square and position it so that one end is parallel to the diagonal line and that the other end intersects the mark that was made 3-1/2 away from the orginal mark. Scribe the line with a pencil. Cut out the seat and heel marks of the birdsmouth cut using a circular saw. Clean up the cuts (if needed) using a hand saw or circular saw. By following these steps for the birdsmouth cut at the front of the rafter, you will be left with a birdsmouth cut that rests on the front wall of the shed as shown below: Example of how the birdsmouth cut at the front of the rafter will rest on the top plate Below is an alternate view of how the birdsmouth cut at the front of the rafter will look: Alternate View (model) of the front roof rafter birdsmouth cut After cutting the birrdsmouth cuts on the front and back of one of the shed roof rafters, dry fit it in place on top of the shed. If you are happy with the fit and the birdsmouth cuts land appropriately on the top plate for both the front and back wall, use that rafter as a template board to mark all of the rest of the birdsmouth cuts on the remaining rafters. Mark the template board and use it to make the birdsmouth marks on the remaining shed roof rafters. Use ONE rafter as a template to mark all of the rest of the rafter birdsmouth cuts After marking all of the birdsmouth cut lines on the rafters, cut out the birdsmouths with a circular saw and hand/jigsaw as described in the previous steps. PRO TIP Cut a few rafters and confirm the fit on the shed. In some cases, you may need to make minor adjustments as you go.NOTE: Some people will cut the front and backs of the rafters so that the fascia boards attached later are perfectly vertical. To do this, you simply need to mark the same pitch line (2:12 in this case) on the ends of the rafter and cut them off accordingly. At this stage, you will place your shed roof rafters on top of the lean to shed based on the rafter spacing determined previously. It is recommend that you mark the locations of the rafters on the front wall and back wall top plates all at one time before installing any of the rafters. Mark the Roof Rafter Spacing on the Shed Wall Top Plates After marking the rafter spacing, lift all of the roof rafters into place: Position lean to shed roof rafters in place After positioning all of the lean to shed roof rafters in place, secure the rafters to the top plate with hurricane or rafter ties. You can also toenail the rafters to the top plate with a nail gun, but this not as secure as using hurricane/rafter ties. Use hurricane or rafter ties to secure the rafter to the shed walls At this point in the shed installation, we will install the fascia boards on the front and back of the shed as shown below: Prepare to Install Lean to Roof Fascia boards similar to the above Cut your fascia boards as needed to achieve your desired overhang on each side of the shed. In this example, we have a one foot overhang on each side of the shed. Mount the first fascia board to the front of the shed rafters leaving your desired overhang (1 in this case) on each side as shown below. Install the Front Fascia Board to the front of the Shed Rafters as Shown above If you are installing the fascia boards by yourself, you can install a temporary holding brace on on side of the rafters as shown below: If you are installing the Sheds fascia boards along, considering installing a temporary holding brace After positioning the fascia board in place, attach it to the front of each rafter using a nail gun. It is also recommended that you install a few exterior rated screws through the fascia board and into the rafters for a bit of additional durability. Attach the Fascia board to the front rafters using nails and/or exterior screws Use a clamp as needed to ensure that the fascia board is perfectly flush with the top/bottom of the rafter it is attached to. After securing the front fasica board to each rafter at the front of the shed, move to the back of the shed and repeat the same process. Install the Fascia Board on the Back of the Shed as Shown Match the same rafter overhang as was done on the front fascia board, position it in place on the back rafters of the shed, and then attach the fascia board to the rafters. Attach the Fascia board to the rafters at the back of the shed as shown. Be sure to leave a 1 overhang on each side At this stage both the front and back fascia boards have been installed as Shown in red below: Fascia Boards attached at both the front and back of the shed Next, we will install the final two roof rafters. After attaching the fascia boards with the desired overhang (1 in this case), you can now install the final rafter which will overhang the shed sides by 1. Install the rafters between both fascia boards so that they are flush with the end of the fascia boards. Refer to the Figure below: Lean to roof rafter overhang on each side of the shed Use clamps as necessary to temporarily hold the rafter in place while you fasten it to the fascia board. It is recommended that you use exterior rated screws to attach the overhung rafters to the fascia board (for additional strength). Use clamps as needed to temporarily hold the overhung rafter in place while you fasten the rafter to the fascia board Next, cut blocking to go between the outermost rafters based on your overhang distance. Trim twelve (12) of the scrap pieces of 2x6 to 10-1/2 to use as support blocking for the overhung rafters This blocking will be installed to provide addition support to secure the overhung rafter to the adjacent rafter as shown below: Install blocking between the overhung rafter and the adjacent rafter Maintain the spacing between the blocking needed for your specific shed application. Maintain the spacing between blocking as needed Select your blocking spacing to ensure that the edges of the plywood roof decking (to be installed later) will land directly over a stud/block. Use clamps as needed to temporarily hold the blocking in place and fasten the blocking to the rafters using a nail gun. Once the rafters, fascia boards, and support blocking have been installed, your lean to shed roof will look like this: Shed Roof Framing with Rafters, Fascia Boards, and Support Blocking for the Overhung Rafters Installed The last step to complete the lean to shed roof framing is to install blocking between each rafter at both the front and back of the shed as shown in the Figure below: Install Blocking between each rafter at both the front and back of the Shed To do this, I recommend that you first trim off approximately off the width from the blocking lumber to account for the angle of the roof. If you dont do this, your blocking may extend higher than the rafters, which is not acceptable. Refer to the figure below which shows how a full width blocking board could prevent the shed roof decking from laying flat. Blocking lumber must be trimmed from to prevent it from interfering with the roof decking To trim the blocking lumber, I recommend that you run a circular saw along the entire length of a board and then cut the individual pieces of blocking to length. Place each piece of blocking in place between the rafter and attach it to each rafter by toenailing in nails with a nail gun. Toenail in the blocking between each rafter with a nail gun as shown Below is an alternate view of the blocking installed at the back wall of the shed. Blocking Installed on the between the rafters on the back wall of the Shed Once the blocking has been installed between the lean to shed roof rafters, the only thing left to do is install the plywood roof decking. At this Stage, your lean to shed roof is fully framed. The last step in the lean to shed roof framing process is to install the plywood roof sheathing. If you planned out your rafter spacing appropriately in the previous steps, your plywood decking layout should ensure that the edges of each piece of plywood land in the center of a rafter. For the example shed described herein, the plywood roof decking layout would look like this: Example Plywood Roof Decking Layout It is recommended that you install all of the full plywood decking sheets first. Then, fill in the remaining gaps. Position the each piece of plywood roof decking so that it is flush with the Fascia Board/Rafter and then attach it to the rafters/fascia boards with a nail gun. Ensure that the edges of the plywood sheathing land directly in the center of a rafter/piece of blocking. For the plywood decking that needs to be trimmed, consider dry fitting the plywood sheet in place and marking the cut line from below: Consider marking the plywood roof decking cuts from below After marking the plywood roof decking cut line, make the cut with a circular saw as shown. Trim the Plywood Roof Decking as needed Again, the plywood roof decking edges should land in the center of a rafter/block as shown below. The edges of the Plywood Decking should land directly in the center of a rafter After placing all of your plywood roof decking in place, you may find it helpful to run a chaulk line to help identify the rafter location beneath the plywood roof decking. Consider marking the Rafter location (below the plywood roof sheathing) with a chaulk line Install any remaining nails needed to secure the plywood roof decking to the rafters (space nails every 12 O.C.) Secure Plywood Decking to the Lean to Shed Roof Rafter with Nails every 12 At this stage, your plywood roof decking has been installed and your lean to shed roof is fully constructed as modeled below: Completed Lean to shed roof How much does it cost to build a lean to Shed Roof? The cost to build a lean to shed roof depends on the size of the shed. For a 10x10 shed, plan to spend approximately $150-$275 for the materials. Plan to spend roughly $75 for the roof rafter lumber and $125 for the plywood roof decking. If you are more of a visual learner, you can watch my How to Build a Lean to Shed Roof YouTube Video below: Learn How to Frame a Lean to Shed Roof With this DIY, Step-by-Step Video This Lean to Shed Roof was installed as part of the 10x10 Modern Shed Build Project. If you want to learn how to build a similar shed, check out my other Blogs or my How to Build a Modern Shed Video below: Learn How to Build a Shed, Step-by-Step For more information on how to Build a 10x10 Modern Shed from start to finish, check outATimprovements.comor watch mystep-by-step tutorial videos on Youtube. Thanks! Thanks so much for checking out ATImprovements! If you learned something from this project, you might also like these other DIY Projects: Thanks! DISCLAIMER: This is a reference guide only. Consult local code requirements. Links included in this article might be affiliate links. If you purchase a product or service with the links that I provide, I may receive a small commission. There is no additional charge to you! Thank you for supporting ATimprovements so I can continue to provide you with free content each week! Recent Posts link to How to Install a Schluter-DITRA-HEAT Heated Tile Flooring System from Start to Finish (DIY) link to How to Build a Shed Foundation on a Slope - A DIY, Step-by-Step Guide Hi, I'm Andrew - the owner and operator of the Atimprovements brand! AT Improvements is dedicated to all things DIY, Home Renovation, and Home Improvement. I have over 10 years of experience in engineering, home renovation, property repair, and property acquisitions and since the founding of Atimprovements in 2021, I have helped over 50 million men and women with their DIY home renovation and home improvement projects through detailed YouTube video tutorials, Instagram project ideas, and step-by-step blog articles. I hope that the resources provided can help you to successfully tackle all or your DIY and Home Renovation projects effectively. Thanks! - Andrew Ready to build your shed? Just wondering what roof to build and how it all goes together? Where to start? Dont worry; weve all been there. Angles, lengths, slopes, theyre all part of the roof design and build.To make it easier, weve put together a how-to DIY shed roof framing guide with step by step guide for some of the more popular shed roof designs. Well give you some tips and tricks to make your build easier and help understand some of the building terms too.So, pour yourself your favorite beverage, sit back, and enjoy our little guide. Hopefully, we answer all your questions. Factors That Impact Your Shed Roof DesignRoofing material typesPlywood or OSB is the most common materials used for the roof sheathing. It must meet the local codes for thickness (at least 3/8), which is also based on the rafter or truss spacing.The pitch of the roof determines the roofing material you can use. Asphalt shingle can be installed on a pitch of 2 over 12 or greater. There are special shingles available for 2/12, but youre better off using other materials. If the roof is less than 2/12, it should be either metal or have a rubber membrane covering it.Youve put a lot of sweat and money into building your shed, so protect your investment by using felt paper, ice guard, and drip edge. They may not be necessary on a shed, but they will help the roof last longer and help protect whatever you store in the shed.ClimateWhere youre building has an impact on roof slope and design. Snow load, wind force, rain and heat all are climate factors that influence the roof. Most roof designs can be made to work in most climates, just be aware that there may be higher costs involved to build them.The greater the snow load potential, the higher the slope should be (4/12 or better). Rain can pool on a low slope roof and rot cedar and asphalt shingles and find or enlarge gaps to cause leaks. Damp shingles can lead to moss which will also rot the shingle.A strong prevailing wind or gusts usually means a lower slope windward to reduce wind force. The saltbox roof was designed for coastal winds. Hot, arid climates frequently have a low slope roof design with lots of ventilation and insulation.Type of the shedDifferent roof styles go with specific structures. If all walls are the same height, the Gable, Hip, and Gambrel roof works well. If you want a high side and a low side, the Saltbox, Skillion or shed roof is for you.If you need a high usable attic/storage space, the Gambrel or barn roof is best. If you want headroom or storage on one side but not the other, the Saltbox is ideal. The Gable or Hip roof will give higher center storage or headroom.The Skillion or Shed roof provides a single slope roof deck running from a high wall to a lower wall. The slope determines if it is a Skillion (greater than 6/12) or Shed roof. It permits high storage on one wall and less on the other. Common Roofing Terms Explained SlopeMeasures the rise in inches for every foot of distance horizontally: 3 rise for a 12 run (3/12).PitchIs the height of the roof compared to the total span of the roof, usually expressed as a ratio of in feet (6-feet to 18-feet or 8:16). The span is the distance from one rafter supporting wall to the other rafter supporting wall.AngleIs used to cut the rafter where it meets the ridge beam, and to cut out the birds mouth at the wall. It is measured from the horizontal wall line to the sloped rafter using the rise over run: a 14 angle gives a 3/12 slope, 4/12 is an 18.2 angle, and 6/12 a 26.6 angle.RidgeThe upper edge where two roof slopes or decks meet.Ridge BeamTransfers the roof load to the gable ends or a post and supports the rafter ends at the ridge. It can be under the rafters to support, or the rafters can tie into it for support.Ridge BoardIs a plank that supports the top end of the rafters, maintains spacing, and helps the roof structure to work as a connected system.Collar tiesA horizontal plank that helps hold two opposing rafters together, and thus the roof; often located 1/3 to 1/2 down the rafter between the ridge and the ceiling.BirdsmouthIs a cut notched into the rafter where it rests on the top plate of the supporting wall; it helps transfer the roof force to the wall and makes it easier to securely toenail the rafter to the wall.Rafter LengthIs the distance from the ridge beam to the wall, it is calculated using the total rise over the total run (Pythagorean Theorem). If it has an overhang, that is added after calculating the rafter length.How a Roof Withstands Snow LoadsA roof can usually withstand more than its rated snow load based on the tributary area, duration, and inertia. The closer the rafters are together, the thicker their depth, the use of collar ties, and the greater the slope, the better able to withstand snow load. Additionally, the greater the slope, the greater the impetus (gravity) for the roof to shed the snow.The tributary area is the maximum distance between the rafters: 12-inches means 6 tributary area, 16-inches is an 8 tributary and 24-inches is 12s of tributary area. The greater the distance between the rafters, the greater the snow load each rafter carries.The duration is the length of time the snow stays on the roof before it melts, evaporates or slides off; it is usually brief, so there is less damage than if it was year-round accumulation.The inertia is based on the time it takes for the snow to accumulate on the roof. The moment of inertia is great, since the snow build up is over a matter of hours, days, or even weeks. So the roof has time to adjust to the load. What is the Difference Between Pitch and Slope The pitch measures the height of the roof, its total rise, compared to the total distance the roof covers from side to side, or its span, in feet. It is a ratio. If the ridge beam or peak is 6-feet above the horizontal wall height; that is the total rise. The span is the total distance from one rafter support wall to the other rafter support wall; usually, double the run of the rafter. For example, if the rise is 6-feet and the span is 24-feet, the pitch is 6/24 or 1/4.The slope is a ratio of the rise over the run of a rafter, usually measured in inches or as a fraction. The distance horizontally from the support wall to the centerline under the ridge beam is the run. The distance vertically from the top plate to the top of the ridge beam is the rise. It compares the distance up in inches for every horizontal foot or run. A 6-inch rise over a 12-inch run is a 6/12 slope.The pitch is more relevant to the construction of the building and calculating material needs, and the slope to the roof construction. Types of the Roof by SlopeThere are 3 main types of roofs; flat, low slope, and steep slope a Gambrel is a combination of a low and steep slope.Flat Roof has a slope of 2/12 or less, it is usually covered with metal or a membrane. Very little to no wind force, but very slow to shed snow or rainwater; may require a special drainage system.Low Slope has a slope between 2/12 and 4/14, is usually covered with rated shingles or steel. Less wind force impact, but sheds snow, rain, and debris slowly.Steep Slope has a slope greater than 4/12 and is covered with shingles or steel. It needs to withstand greater wind force but sheds rain, snow, and debris more quickly.Building Code Requirements The Building Code highlights acceptable materials for different roof slopes, styles, and climates. It details all factors in roof construction, even ventilation. It doesnt address drip edge though.Building code also details requirements for areas with significant snowfall. It often includes requirements for a steeper roof slope. You may need to get stamped engineered truss drawings too. Or, you may require thicker timber material for truss/rafter construction. Some areas include ground level to eaves height requirements too. The impact on neighboring structures or properties is often also a consideration.Its best to check with your local building department before you start. Make sure your structure meets code requirements.Difference Between Rafter and Truss Rafters and trusses are both used to build the roof structure. The main difference is a truss is built in a factory to engineered standards. It often uses smaller members to form a web of support triangles. A rafter is usually made on the job site using thicker dimension lumber. Cuts for tying to the ridge beam and birdsmouth for the wall are individually done, and collar ties added.Rafters with a ridge beam26 or larger planks that are angle cut to meet flush with, or above, a ridge beam that runs the length of the roof. They also usually have a birdsmouth notch, so they hook onto the top-plate of the wall.Rafters for a slanted, skillion or lean-toExtend across the low wall top-plate over the high wall top-plate. They are often notched at both walls and extend past the supporting walls to form the eaves. They are usually 26 planks but may be thicker depending on slope, snow load, and span.TrussesAre usually manufactured to engineering standards. They have a diagonal top member that forms the roof slope, and a bottom member the runs the roof span. The top and bottom are connected by smaller pieces that form connecting triangles. The triangles transfer the load from the roof deck to the walls or supports.When to use trusses and when rafters?Use rafters for smaller span projects and trusses for wide span projects. Rafters are better for an open attic space or a vaulted ceiling and dont have to be pre-ordered. Rafters historically spanned similar distances to modern trusses, but today the main factor is cost. Calculate the material cost to build a roof using rafters, then give a truss company (or two or three) a call and get a quote for the same roof done with trusses. Remember to factor in the cost of delivery and a crane to lift the trusses to the roof (if required). The further away from a truss manufacturer and a crane you are, the greater the cost, so rafters may be a better option.What is best, rafters or trusses?Depends on what you are building since the structural integrity of a properly built rafter is the same as a truss. Trusses have been replacing rafters because they can cover wider spans more easily. They often cost less since they are made of smaller dimension lumber than a rafter. Since trusses are assembled off-site they arrive ready to install which saves time. However, they must be ordered weeks and sometimes months ahead of time. Rafters are great for sheds or garages, or even small additions to a house, and dont need to be ordered in advance.Which option is faster and safer?Rafters are faster for small projects. However, for large buildings, pre-ordered trusses arrive at a set date and can be installed in a day or two. Rafters for the same project could take skilled carpenters weeks or months to erect.Both trusses and rafters are safe for roof construction. However, safety is a matter of human knowledge, planning, and error. Rafter length and weight may be easily handled by one person on a shed. But a truss for a house may require 2 or 3 workers or a crane. Not bracing the walls or putting your hand or foot in the wrong spot is human error; knowledge and planning prevent errors.Framing Most Common Types of Roof Gable RoofA gable roof for a shed can be built with rafters with a 16 ridge board or using trusses. Much depends on the structure size, and the desired attic, loft, or headroom. A simple gable shed roof is often built using 24 or 26 lumber for the rafters, and 24 for the collar ties. The rafters are angle cut at the ridge end and notched with a birdsmouth where it meets the top-plate of the supporting wall.Building trusses on site is easily done for a shed. The rafters are angle cut to meet each other instead of the ridge board. The ceiling joist spans from support wall to support wall and sits on the walls. It is angle cut where it meets the rafters. Use triangles or squares gussets cut from thick sheathing to attach the 3 truss pieces together. Remember to extend the rafters past the walls for the eaves, and to cut the ends to be parallel to the walls for the facer to attach. Gambrel RoofA Gambrel shed roof involves significantly more angle cuts than a gable roof but provides more storage space in the attic. Its much easier to make your own trusses than to build the rafter system, or even purchase ready-made trusses.To make your own trusses angle cut the 24 pieces for the upper slope to the desired length. Then cut the lower slope 24 pieces, so they connect with the upper piece and run to sit on the top plate. Make triangular gusset plates using plywood to attach the 4 pieces to form the truss. A 24 or 26 (or heavier) ceiling joist connects the bottom of the truss where it sits on the top plate. The dimension of the ceiling joist depends on the span and what you plan to store in the attic. Saltbox RoofThe Saltbox shed roof is constructed similar to the gable roof, except one roof slope is longer than the other because the support walls are different heights. The ridge is off-center and closer to the taller wall.Rafters are angle cut to meet at a ridge board, and birdsmouth notched where they intersect with the support walls. The collar tie often connects with the short section at the top plate and then runs horizontally to the long slope piece. Most pieces are made with 24 or 26 lumber.Skillion Shed Style Roof FramingThe Skillion and Shed style roofs are framed with a single slope 24 or 26 (or thicker) rafters spanning from the low wall to the high wall. If you plan to have eaves to protect the shed walls, make sure you add the extra length when measuring the rafters.I prefer to notch a birdsmouth where the rafter sits on the high wall and the low wall and extending it at both ends to form eaves. I also cut each end vertically for the fascia board, and block or strap the rafters to prevent twisting under snow load. Lean to Shed Roof FramingA lean-to roof just means its attached to an existing structure. The high end of the rafter sits on or attaches to a ledger plate attached to the existing wall. The lower end is done the same way a Skillion or shed roof is. Notch a birdsmouth where it sits on the low wall and extend it past the wall for the eaves.Hip RoofA hip roof sheds snow, rain and leaves well and can be made with trusses or rafters. When using rafters, common rafters are attached to a shortened ridge board which doesnt run the full length of the building. Cut the ridge end with an angle cut, and at the supporting wall top plate with a birdsmouth notch.A common rafter usually runs from each end of the ridge board with the same angle cut and a birdsmouth where it sits on the end walls. Four hip rafters are angle cut to fit between the two perpendicular common rafters at the end of the ridge board. The lower end is notched to sit better on the corner of the two walls.Shorter rafters, or jack rafters, are angle cut to attach to the hip rafters and notched for the wall. All rafters are equally spaced at 12, 16 or 24 centers. Although there are a lot of angle and birdsmouth notches to cut, it is a fairly simple, but attractive roof. Flat Roof FramingA flat roof has a slope of 1/8 per foot to 2/12. It is not ideal for snow or heavy rain, but modern materials and proper drainage have helped. If you build a flat roof, try to have it slope in multiple directions to drains or gutters; think of a flattened hip roof. Due to the stresses or weights involved, its a good idea to check with the local building department. Also, use thicker building materials if recommended. Shed Roof Framing Process Explained Step by Step InstructionsFraming a shed roof is similar to framing a wall. The fascia board is the bottom plate and the ridge board the top plate. Keep it simple and remember; its a shed! Stick to the basics of simplified design and use dimensions that dont generate waste. Sheathing comes in 48 sheets, and dimension lumber in multiples of 2-feet. Most even dimension sheds are perfect, even if you want eaves all around. You may need to rip a 48 sheet in half, but minimal waste means less expense.Building trusses or cutting rafters for a garden shed is fairly easy. If its a barn or garage, then cost out manufactured trusses. Lay out your rafter or truss design and determine the angles, birdsmouth, or gussets needed. Cut a pattern piece or pieces, check the fit, then cut, build, and frame the roof.Safety First Construction accidents occur in the thousands every year. Whether stepping on a nail, twisting when carrying a load, trimming a finger with a skill saw, broken bones falling off a ladder, or roof surfing on wet sheathing and not surviving the impact. Most accidents are avoidable and are usually just human carelessness.Ladders make reach rafter or truss heights easier and safer. Tie the ladder off, use standoffs to stabilize it, make sure its on solid, level ground, and dont overreach.Safety glasses are a must on a building site. Sawdust, nail fragments, and flying debris are some of the hazards you need to protect your eyes from; a cheap way to minimize risk.Safety footwear is always a good idea. Sandals or runners maybe light and comfortable, but step on a nail or kick a truss into place, and youll feel it.Work gloves protect from slivers or cuts, and some even improve grip on nails and wood.Safety rope and harness are a good idea if working on a roof. Make sure you tie it to something that wont be driving away or where it will be untied because its in the way.Choose the roofing materialFor building trusses, use 24 lumber and make the gussets from plywood.Make rafters from 26 lumber or larger, so the birdsmouth doesnt compromise the rafter. The thicker lumber also makes it easier to insulate should you wish.Determine RiseMultiply the rise in one foot by the total run of the slope.For example:To build a shed roof on a 4x8 lean-to shed, I need to know where to attach the ledger plate. The ledger plate is what the rafters will attach to against the existing building. Using the slope, I can calculate how high up from the top of the lean-to walls the ledger needs to be.For a 3/12 slope, multiply the total run in feet by the slopes rise: 4-feet of run X 3-inches of rise is 12-inches. The ledger board needs to be 12-inches above the top of the lean-to walls.Determine RunThe run is the distance from one supporting wall to the centerline of the shed for a gable roof. For a Skillion or shed roof, its the distance from one supporting wall to the other.For the 4x8 lean-to in the example in to Determine Rise, the run is the width of the building, or 4-feet.Calculate PitchThe pitch is the total vertical rise from the top of the wall to the top of the ridge, compared to the total span from support wall to support wall.To determine the pitch of our 4x8 lean-to shed example, compare the total rise in feet to the total span in feet, or run in this case. The total rise is 12-inches, or 1-foot and the span is 4-feet, so the pitch would be 1/4, or a quarter pitch roof.The greater the roofs pitch, the better it will shed snow, ice, and rain. It is also easier to insulate a roof with a greater pitch.The minimum roof pitch is 1/8-inch rise per foot of spanAsphalt or composite shingles need at least a 2/12 pitch, steel roofing needs a 3/12 pitch or higher, and rolled roofing needs a 2/12 pitch or more.The best pitch for shingles is between 4/12 and 12/12. However, the higher the pitch, the greater the wind force it must withstand. 4/12 to 8/12 is the best.Metal roofing is a good choice for snowy climates. Its more watertight than shingles, distributes snow load better, metal lasts longer, and it often sheds snow faster so ice/snow guards might be needed. Darker colors attract solar gain and heat, so helps shed snow more quickly.Shed Roof Framing with Common Rafters Find the Length of Common Rafter on a ShedA common rafter refers to all the rafters that are identical in a specific roofs construction. Once you make a pattern rafter, all (or most) are cut to match. To find the length of a common rafter, you can use a construction calculator, a free online calculator, or some junior high math involving the Pythagorean formula.The horizontal distance from the ridgeline to the outside of the support wall is the run, in feet. The desired slope is the rise over the run, multiply the run in feet by the desired run, and you have the total rise in inches. Convert so both are either in feet, or in inches, and use the formula and do the mathtwice, to make sure. (rise x rise) + (run x run), then find the square root of the combined numbers, and you have the rafter length from ridge to wall.For our 4x8 lean-to example, the total rise is 1-foot and the total run is 4-feet. 11+44=17. The square root of 17 (17) is 4.123-feet, or 49.477-inches or 49-15/32+/-.Determine Lumber Size and O.C. SpacingAdd the length for the eaves, if needed, to the rafter length, and you have the overall length of your common rafter. Remember, you need to add for the ridge angle cut plus the thickness of the wall when selecting the length of dimension lumber to use. To determine the lumber size and O.C. Spacing I use Rafter Span Tables. For most sheds less than 20 feet wide with a 3/12 gable roof, 26 at 16-inch centers works, and thats with a 40-pound live load. If your rafter length is less than 5-feet, use a 24 at 16-inch centers.The 4x8 lean-to example could use 24 rafters at 16 centers since they are less than 5-feet long. The length of material would be determined by the overhanging eave.Determine How Deep to Cut the BirdsmouthThe birdsmouth should sit on the wall not exceed 1/3 of the depth of the rafter if it extends past the wall. The code usually requires a minimum of 1 of the rafter sitting flush on the wall. Use a framing square to help lay out the notch based on the slope of the roof. A 24 wall with a 26 rafter can be notched for a 4 seat.For our 4x8 lean-to example using a 24 rafter, the depth of the birdsmouth is limited by the 1/3 depth of the rafter rule: so about 1-3/16.Cut the Top Plumb CutThe top plumb cut is made where the rafter will meet the ridge board or the opposing rafter. Use a framing square to lay out the cut based on the roof slope. For a 3/12 slope, align the square so the outside of the short side is against the plank 1/2 to 1 from the end. Pivot the long arm of the square until the 12 mark on the outside is against the plank. Double check that the 3 and 12 marks are at the edge and on the same side of the plank. Draw a line across the plank where the outside of the short arm crosses the plank. You may need to extend the line across the plank. Use a saw and cut at the line.Measure Rafter Length and Mark the Outside Edge of BuildingFrom the top of the angle measure the rafter length as determined using the formula. Mark the rafter at that length. Use the framing square draw a plumb line across the plank at that mark; it should be parallel to the top plumb line. Where the plumb line marks the underside of the rafter, is where it will meet the outside of the wall, and the birdsmouth, or seat, will end.Lay Out and Cut the BirdsmouthBuilding codes usually state that you need at least 1 of the rafter sitting on the wall plate. Align the framing square against the underside of the rafter based on the slope. Move the 12 run arm of the square until the desired seat depth is reached from the plumb line i.e., 12 1 = 10 so with the rise and run referenced on the square against the underside of the rafter, the plumb line should intersect the outside of the long arm at 10. Draw a line from the plumb line to the 12 run mark, and you have the cut lines for the birdsmouth.Layout and Cut the Tail of RafterThe tail of the rafter also forms the eaves. From the birdsmouth plumb line, horizontally the distance for the eaves. Using the framing square at the slope references for the rise over the run on the top of the rafter, measure from the plumb line to the desired measure. Draw another parallel plumb line using the square. That is the end of your rafter. The size of the facia determines the depth of the rafter end. Use the square to measure down the end plumb line the thickness of the facia. Draw a horizontal line (90) from the desired facia thickness toward the birdsmouth. Cut the 90 angle to form the rafter end.You now have a pattern for all common rafters.Install RaftersIf the rafters tie to a ridge board, mark it and the top plate of the support walls with the spacing. Nail one rafter at the ridge board, and then toenail the opposing rafter into place. Work your way along the ridge installing the rest of the rafter pairs. Align the birdsmouth at the mark and toenail it into place.Pro Note:Space the rafters or trusses at 16 centers, align them over the studs of the support walls. This will help the wall better carry the roof load.Ways to attach rafters to top plates:Use 10d or 16d nails to toenail the rafters into place at the top plate. I usually add hurricane ties too as added protection from wind force. It adds to the cost but can make a difference when needed.Gable Shed Roof with Ridge Beam FramingA ridge beam is thicker than a ridge board, so nailing through it into the rafter end isnt an option.Toenailing from both faces of the rafter into the beam is one option but makes keeping the rafter lined up difficult.Rafter hangers are another option for attaching rafters to a ridge beam. Attach the hangers to the beam at the required spacing, and then attach the rafter to the hanger. Nail using 10d or 16d nails or use Simpson Strong-Tie fasteners designed for structural brackets (my preference).Roof Framing with Trusses Framing the roof using trusses instead of rafters is another option. They can be manufactured or pre-made, or you can make your own.To make trusses draw up a truss plan or find one online or in print. I like the challenge of drawing it up; sometimes its easier if the shed is an odd size or shape.Cut all the components for one truss, including the gussets to hold it together. Tack the pieces together and ensure it fits adjust if necessary. Disassemble, and use the pattern pieces to lay out and cut all components for all the trusses.Assemble trusses using plywood gussets using 6d spiral or ring shank nails.Lay the trusses on top of each other to make sure they are all the same.Lift the trusses onto the top plates, space them as planned, and secure them to the wall plates.Toenail the trusses to the top plate using 16d spiral or ring nails. Or fasten the trusses to wall plates using hurricane brackets with 10d nails or Simpson Strong-Tie fasteners.Build the gable ends so the top plate is 1 side overhangs lower than the top of the truss. Cut 24 lengths to nail to the last truss, go over the gable end, and extend out to form the eaves. Nail the fascia board to the ends of the 24 roof extensions.There are a variety of metal brackets on the market. Many are good, but some are better. My preference is Simpson Strong-Tie fasteners and structural brackets. Theyre readily available and come with a good guarantee. Install Roof Sheathing Plywood or OSB are both fine for sheathing a roof. The thickness minimums are in the building code. I use 5/8 for 16-inch centers and 3/4 for 24-inch centers. Block or strap the rafters if they bow laterally. Use tongue and groove or H-clips between trusses/rafters.Start at a bottom corner and work along the roof with full sheets across the rafters or trusses. Use 8d or 10d common nails. Offset the second row by half a sheet and finish the roof. Cut a sheet to fill in the row ends. Remember to leave space at the ridge for ventilation.Make sure to check out my post about what type of plywood to use for a shed roof.Install Shed Roof Felt Roll out the first row of felt and staple in place or use self-sticking roof guard. Start at the edge of the sheathing. Overlap the next row and continue till the roof is covered. Use stainless steel staple or the self-adhering roofing.Install Drip Edge The drip edge is nailed in place using 3/4 or longer shingle nails. It goes over the felt on the gables to prevent windblown moisture getting under the felt. At the birdsmouth end, it goes under the felt. Overlap the sections of drip edge too.Installing Shingles Start in the lower corner and follow the manuf

This article was co-authored by David Bitan. David Bitan is a roofing professional, licensed contractor, and the owner and founder of Bumble Roofing based in Southern California. With over 12 years of construction industry experience, David specializes in restoring, repairing, and maintaining residential, commercial, and industrial roofs. With over 60 years of combined experience, Bumble Roofing provides easy, friendly services to structures including residential, commercial, industrial, multi-family, and government buildings along with hospitals, hotels, and churches. This article has been viewed 355,470 times. Co-authors: 22 Updated: June 4, 2025 Views:355,470 Categories: Building Roofs | Sheds PrintSend fan mail to authors Thanks to all authors for creating a page that has been read 355,470 times. Are you thinking about building a shed? If so, then its a good idea to make a checklist of what needs to be included in the planning. Thats why weve put together thisresource with step by step guide on how to roof your garden shed for extra protection in all weather conditions. From; pent, gable, and hip to gambrel, saltbox and more, all have standards for planning your build. When you decide to build your own shed, choosing the right roofing is essential, and there are a few important factors to consider when doing this. Step 1 The Style First of all, you need to know whether your roof style will actually fit. And then, whether or not it will be in-fittingwith your sheds style. For example, a pent roof for a large workshop might not be the best idea if you want to move tall equipment in and out. Similarly, a reverse apex roof might not suit a space-saving corner summer house. Step 2 Is It Waterproof & Weather Resistant? Will your choice of roofing style and materials prevent the contents from getting wet and keep them dry? The right materials and construction are important. Ultimately, all styles from a gable roof to fancy skillion roofs aredesigned to allow for adequate runoff. This means theyshould keep your sheds interior dry and be resistant to pooling. But the materials you choose may differ. Step 3 The Budget Will the construction of the roof design be cost-effective for its lifecycle? What materials will be needed? Traditional felt style, wooden, or clay shingles? You may even opt for a more modern green living plant roof. This could be an attractive low-cost and low-maintenance alternative when building a shed roof. Think about the durability of the materials when choosing them. Will you want to change out the roofing material? With something like green roof felt or bitumen shingles, this is a lot easier to do. How often will the roofing need to be replaced to maintain it properly? Would it be more cost-effective to fork out for an EPDM rubber roof thats waterproof? Without careful material selection, building an economic and waterproof roof that looks beautiful is possible. Step 4 Roof Styles What Type of Roof? Roofs have three broad pitch groups, meaning the angle or slope for water runoff. Depending on the desired pitch, the right materials need to be chosen to follow the targeted slant. A popular misconception about water is it only flows downhill and this is not always true when it comes to a roof level. Wind gusts can blow water upwards and defy gravity, forcing water in between tile overlaps and into the roofs structure. Minimum pitch standards, for any roofing system, help ensure resistance against water ingress. Still, something like clay tiles on top of a waterproof underlay may offer even more protection. The Flat Roof Pitch 0 to 10 degrees A flatter roof is likely to be a pent style with a bit of roof overhang at the front. Perfect for a shady little veranda in front of a garden summer house. A flat roof has a pitch of 10 degrees or lower. The main material used for a shed with a flat roof is bitumen mineral felt on top of sheet metal or plywood roofing boards. If choosing a flat roof, keep in mind this will most likely require more frequent maintenance to prevent leaking.Check out the infographic below for more info on vapour membranes. The building industry has an old saying when it comes to flat roofs: There are those that leak and those that will at some point. Still, dont let this put you off a lovely contemporary pent-roof shed. The maintenance cycle will be less regular if the slant is closer to a 10-degree pitch, but it will still occur more regularly than if using a higher pitch. An important thing to remember: if an insulated roof is being installed, be sure to allow for an air gap between the roof deck and the insulation for ventilation purposes. This will help prevent moisture build-up and the encouragement of mould growth. In addition, it is always a good idea to follow the manufacturers recommendations. It is also recommended by some local authorities to add an additional 5 degrees to the manufacturers minimum pitch for good measure. This helps ensure water tightness. The Low Pitch Roof 10 to 20 degrees A low-pitched roof is sloped at 10 to 20 degrees and the most common materials used are tiles and shingles. Extra care and caution need to be taken to use a waterproof underlay when installing, and it is important to follow manufacturer recommendations. The Pitched Roof 20 degrees and higher With a steep pitch, this is the common style we see on apex roofs, with acentral peak at the ridge. A pitched roof is sloped at 20 degrees or higher. Materials commonly used for this degree of slope come with their own important rules of thumb. Step 5 Roof Covering and Roof Material Have a look below at your choices for roof material. Concrete interlocking tiles Best suited material for a 20-degree or higher pitch.Heavy weighted material. For safety reasons, the supporting roof and wall strength and supportability must be considered and included in structure planning.Concrete interlocking tiles are more common on larger timber structures as opposed to smaller ones due to their weight. Clay tiles For a general pitch of 35 degrees minimum.Hard outer shell waterproof.Available in a huge range of colours, sizes, and shapes. Whatever the materials you choose to build your shed roof with, always get the manufacturers datasheets for the products. These will include the roof pitch minimum to keep the shed waterproof. Asphalt shingles and green roof felt Bitumen or asphalt shingles and green roofing felt are budget-friendly and easy to install whilst offering excellent protection. Theyre also easily replaced if need be. Thats why our garden sheds come with roofing and felt included as standard. Step 6 Shed Roofing Materials Costs A roll of mineral roof felt comes with our standard garden sheds, summerhouses, and log cabins. These will generally still have a short life expectancy no matter what. Consider replacing after 3 to 5 years. Remember, any damage to the shed roofing may allow water in and damage the sheds structure. For a more secure (but more expensive) choice over mineral roof felt, the next step up is felt tiles or roofing shingles with a 15-year life expectancy. Starting at the bottom of the roof, the tiles are laid overlapping each other by roughly 50 mm with a 150mm overlap on either side of the ridge. Fix this strip with ridge capping or bitumen adhesive. Wooden shingles a 30-year life expectancy and have a layer of underlay on the bottom and are fixed to battens. Step 7 Roof Rafters vs Trusses Which is better for your roof frame, roof rafters or roof trusses? It depends on whose opinion you are listening to! Some old school framers prefer rafters, but new school framers like that trusses can be built in less time and are more cost and time effective; less time to build means fewer hours. What are rafters? Rafters support a roof deck and are a series of sloped beams extending from the hip or ridge to the wall plate (eave or downslope). Two rafters make up a couple. Rafters are prone to collapsing if there is horizontal movement; this is known as racking. What are trusses? Timber roof trusses are structural frames that provide support to a roof by bridging the space (known as the bay) above a room. Trusses provide longitudinal support because of the added beams used in the truss structural design. Step 8 How to Build Shed Roof Trusses Build the Shed TrussesHow to Build Barn Style Shed Roof TrussesMega Shed: Building and Setting the Roof TrussesBuilding Roof Truss System for Shed, Barn or Tiny HouseInstalling Trusses on the Shed Step 9 How to Build Shed Roof Rafters How to Cut a Roof RafterHow to Layout Roof RaftersGable Roof Pattern Rafter BoardGable Roof Rafters Learn How to Build a Barn RoofRidge and Beam RaftersHip Roof Pattern RafterBuilding Roof RaftersRidge Beam and RaftersBuilding and Installing RaftersJack RaftersFrame a Hip Roof, Fast and Easy No matter what type of shed you are building small, medium or large- well-thought-out planning is a must! The shed roof framing design will also inform: The type of shed roof finish: traditional shingles, clay, wood, sheet metal or eco-livingThe type of support: rafter or trussThe time involvedThe cost. Once youve successfully built, weatherproofed, and even insulated your sheds roof, you can think about heating it. There are many design plans available to download and videos online to guide you. Deciding which one you want to have in your yard is the first step. So check out the links to videos and resources or move on to our guide on how to damp proof and insulate your shed.(Image Credit: Conor Brown/Unsplash) Hshed roofstep by step>ow to build a shed roof step by step? Well, for many homeowners, a backyard shed is the perfect storage place for tools and gardening supplies.It can even function as an auxiliary workspace. After determining where to place the shed and its approximate size, the next question on the minds of many homeowners involves how to frame a shed roof.This shed roof frame needs to provide sufficient protection against the elements, of course, but it also should blend into the surrounding aesthetics of the home. Thus, the decision of how to frame your new structure starts with considering the various roof styles available.StylesAs a rule of thumb, there are three framing styles that are most popular with residential homeowners:Pent This creates a single slanting roof surface, and is most commonly used when the shed roof frame is designed to be an addition to the main home rather than a standalone structure.Gable This style, also known as the peaked gable or the pitched roof, is by far the most popular and most ubiquitous. It consists of a single peak, and then two separate sloping surfaces on either side of it. This single peak structure is what gives rise to the distinctive triangular shape.Gambrel This style, also known as barn style, is the classic style popular in Americas farming communities. Instead of a single slope on either side of the peak, it consists of a double slope on either side. This slightly complicates the process of constructing the roof, but adds to the overall aesthetic appeal.In addition to these three roof styles, there are five other styles that are typically favorites with residential homeowners:SaltboxHippedCurvePyramidFlatFor the purposes of describing the stages required, however, we will focus on the gable style. The flat roof style, for example, is typically used only for commercial and industrial projects.Main componentsWhile building a roof follows a relatively straightforward process, homeowners must understand all of the various features involved in its construction:Underlayment This is a protective layer for the roof sheeting that creates an extra barrier between the structure and inclement weather.Roof covering This covering, in most cases, consists of shingles that are laid on top of the roof sheeting and the underlayment.Guttering In particularly wet and rainy climates, particular concern has to be given to proper water drainage. A simple guttering system might need to be installed in order to ensure proper rain runoff, especially during rainy seasons.Roof tie downs These tie downs (also known as hurricane tie downs) are metal plates that can help connect the roof trusses to the walls. Just as you might expect from the name, these metal plates are designed to provide further support to the roof during extreme weather conditions and prevent it from being torn off or damaged during periods of particularly high winds.Drip edging This is a feature that can add extra drainage to your gable roof.Now that weve seen the basic plan for the creation of a shed roof frame, its time to move on to the detailed build process.ProcessAfter gathering all required materials and tools, its time to start the construction process for your pitched roof.Step 1: Build the trussesAs a rule of thumb, you will first need to build the walls and floor before you can start to build the shed trusses. You can build your own shed trusses by using a standard jig.Instead of working at a table or other raised surface, its best to build the wooden trusses on the ground. The purpose of the jig is to make sure that every truss is identical (If trusses vary in size or angles, it will lead to a roof that is not perfectly uniform!).The trusses will eventually be spaced out evenly along the perimeter of the shed, so the number of trusses required will depend on the size of the final roof area.The good news is that shed plans will typically identify the size of each part of the truss and how to set out the roof truss jig.As a guiding point, remember that with a pitched roof, each truss is going to be triangular in shape.There will typically be a 30-degree angle at the top of the peak and then a 60-degree angle at the point where the truss meets the wall. This is the geometric shape that will provide the greatest stability.Once you have a good idea of the overall shape of each truss, its time to insert the roof truss members into the jig. From there, you can nail plywood gussets into place.These plywood gussets are needed to ensure the rigidity and structural integrity of the trusses. Once the trusses have been completed, they can be put aside until all the walls of the shed have been fully completed.If you are particularly concerned about the strength of the trusses, you can also lock them together with galvanized screws for extra support.Useful links:HOW TO BUILD ROOF TRUSSESROOF TRUSS CALCULATORStep 2: Erect and secure the roof trussesIn this part of the plan, it is important that all wall panels have been fully erected and you have a flat, completely even surface at the top of the wall in order to support the frame.Some homeowners like to add an extra layer of plywood to the top of the walls, just to ensure a very snug fit with the roof.The first trusses that you will erect are the ones at the gable (pitched) ends of the frame. In laymans terms, you will work from the outside in, adding trusses along the way from both sides, such that you meet in the middle.Obviously, you have to do all the measurements in advance so you can evenly space out all the trusses. Then, top-nail each truss to the shed walls. Once you lift the trusses into position, they will not stay in place without a little assistance on your part.You may need to screw in place a horizontal batten brace. The goal here is to have the trusses perfectly secure, upright and fastened for the next key stage of the framing plan.Useful links:HOW TO INSTALL ROOF TRUSSESStep 3: Add the roof sheetingConceptually, you now have a shed with four walls and a series of trusses extending the full length of the structure.All thats left to do is to add the roof sheeting. This, however, requires a bit of preparation in advance.You will need to ensure this roof sheeting has the proper protection, so you must fix soffit boards, rafter end trim and filler pieces between the top of the roof plate and the underside of the roof deck.Step 4: Add a protective roof coveringIn most cases, you will need to add some sort of protective covering to the sheeting. This is particularly the case if you are using the structure to store weather-sensitive materials.You really have to lock out the cold, rain and moisture. Thus, a protective covering will typically consist of one layer of roofing felt, one layer of tarpaper attached to the roofing felt with an industrial stapler, and then one additional layer of shingles.In most cases, traditional asphalt shingles will suffice as a form of relatively affordable, yet durable, covering.Useful links:HOW TO SHINGLE A ROOFHOW TO SHINGLE A SHED ROOFAs you can see, you must have a variety of tools to finish this project. The following is a brief list of some of the basic tools and instruments that you should have on-hand during the project:HammerTape measureGalvanize screwsPower drillsawExtension ladder or other ladder(depending on the height of the structure)Heavy shears or scissorsStapling gunIn addition, you should take into account your personal safety on this project. The following items are useful to have:If this is your first time working on this type of project, you will want to pay particular attention to safety issues while you assemble the trusses. If you are not using pre-packaged trusses that can be easily assembled, you must spend time with power tools, making sure all the components are precise.ConclusionThe process of building a shed roof follows a relatively straightforward approach. Once you have chosen the roof framing that is suitable for the type of shed roof that you are making, then you just need to follow a series of instructions that proceed according to a set plan.There is a certain balance and precision that helps to make a pitched roof that is sturdy, dependable and very resistant to the weather. Once you have finished the framing process, you will have a storage facility that is limited only by your imagination.Last update on 2023-07-04 / Affiliate links / Images from Amazon Product Advertising API1Choose a style for your roof. There are many different roof styles used for building sheds. The most common styles include gable, gambrel, skillion, and saltbox roofs. Each of these roof types is sloped to provide runoff for precipitation, which means the design you go with will largely be a matter of aesthetic preference.[1]Gable roofs feature a single central peak, with two symmetrical sloped sides. They are most often spotted on houses.Gambrel roofs are the style traditionally used for barns. Each side of a gambrel roof has two sloped faces, the lower of which is either perpendicular or at a slight angle to the ground.Skillion roofs are one of the simplest roof styles used in shed-building. A skillion roof is made up of a single flat plane which slopes gradually from top to bottom.[2]Saltbox roofs look like skillion roofs, but with an extra short slope opposite the long angled plane, like an upside-down check mark. They aren't seen on sheds as frequently as other styles, but are still a popular choice. 2Determine your desired roof pitch. The term pitch refers to the slope of the roof. In order to adhere to standardized building codes and ensure adequate runoff, your sheds roof must have a pitch of at least 3-12 (read as three-in-twelve). Beyond that, youre free to choose whatever slope best fits your plans for your shed.A slope of 6-12, for example, means that for every 12 inches (30cm) of length, the angle of your roof rises 6 inches (15cm).The steeper the slope of your roof, the better it will deflect rain, sleet, snow, falling leaves, and other materials that find their way on top.Tip: Pull up a pitch calculator online to translate a given pitch into useful specifications like angle, grade, and rafter length.[3] Advertisement 3Mark the location of your rafters along the top of the shed. When installing rafters, its generally best to follow the same spacing as your wall studs. Use a carpenters pencil or felt-tipped marker to draw a line on your wall plate timbers where each set of rafters will go. In the majority of cases, they'll be about 2024 inches (5161cm) apart on center.[4]Proper placement of your rafters will maximize support while minimizing the overall amount of materials used.If your shed already has rafters in place and you just need to put in or replace the roof itself, you can skip straight to installing your new roofing materials. Advertisement 1Measure your rafter boards for your preferred roof style and pitch. The exact length and angle of your rafters will depend on the overall size of your shed, as well as the style and slope youve chosen. The rafters on a steeply-sloped roof, for instance, will be much longer and have more end cuts than those on a flat roof. Once youve determined the measurements you need, mark them directly onto a series of 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boards using a carpenters pencil.[5]If youre planning on building a gable roof with a pitch of 4-12 for a shed thats 200 inches (510cm) wide, your rafter boards would need to be 105.3 inches (267cm) long on each side.Dont forget to cut the ends of each board to the appropriate angle to allow them to fit together at the peak.Tip: To make the process as efficient as possible, either mark all of your boards at once or measure and cut one to use as a template for the others. 2Cut your rafter boards to size using a circular saw. Guide the blade over the end of the board slowly, aiming to make each cut as straight and precise as possible. Be sure to adjust your saws settings according to the necessary length and angle of your rafters.Take care of all of your sawing at one time. You can then move on to assembling the rafters into trusses and attaching them to your shed frame.3Make a birdsmouth notch at the end of each rafter to help it fit into place. A birdsmouth notch is an angled cut that allows a rafter to sit level on top of a wall plate rather than balancing on top. Position your rafter boards at the same angle as your roofs pitch, then draw a 90-degree angle up from the bottom edge of each board, with the lines corresponding to the height and width of the wall plate, respectively. Cut along these lines to make the notch.[6]You can also figure out the angle for your birdsmouth notch by placing a piece of scrap wood the same width as the distance between the rafter and the wall plate beside your rafter beam and tracing it onto one side of the beam.[7]Note that your notches will need to be higher up on your rafter beams if youre planning on including an overhang.4Assemble your rafter halves into trusses using plywood gusset plates. Trace the upper 810 inches (2025cm) of your rafter peak onto a sheet of 12in (1.3cm) plywood and cut out the triangular plate with a skill saw. Apply a thin layer of construction adhesive to the backside of each plate, then align it with the joint where two rafter boards and press it firmly into place. Secure the plates by driving 2-3 nails or wood screws through the plate on either side.[8]Gussets serve to reinforce connection sites between individual wood members, lending added strength and durability.5Attach the end rafters to the wall plates of your shed frame. Lower the first rafter truss into place at either the front or back of the shed. Fasten the truss by driving 8D finishing nails at an angle down through the board just above the birdsmouth notch and into the underlying wall plate. Use 3 nails for each side. When youre done, install the opposing truss in the same fashion.[9]Make sure the birdsmouth notches seat securely over the wall plates, and that the outer edge of the truss is flush with the outer edge of the wall.If youre working alone, nail an unused 2in (5.1cm) x 4in (10cm) vertically to both ends of your shed. This will help hold your end trusses upright while you focus on positioning on the wall plates.[10]6Run a string between your end trusses to help you set the other rafters. Drive a nail straight down into one of your rafter peaks and wrap the string around it a few times. Pull the string taut and anchor it around a second nail on the opposite end of the shed. The string will serve as a visual guide to help you make sure the rest of your rafters are set and centered correctly.[11]If you dont want to leave nail holes in your rafters, you can also tie a knot at both ends of the string and tuck the knots into the joints where the boards of the rafter peaks meet.Pull your centering string tight enough to be perfectly straight, but not so tight that it places strain on your end rafters.7Set your remaining rafters using your centering string for reference. Work your way from one end of the shed to the other putting your rafter trusses in place and checking their alignment against the string. When youre satisfied with the positioning of a truss, toe-nail it using 8D finishing nails the way you did your end rafters, then move on to the next truss.[12]Ideally, you should have a helper around to hand you up every next truss whenever youre ready for it.Dont forget to remove your centering string once you have all of your rafters installed successfully. Advertisement 1Cover your rafter trusses with plywood sheathing. Put down your first sheet of plywood at the corner of one end of the roof. Make sure its lying horizontally across the exposed rafters, and that the edges are flush with the edges of the end rafters. Drive a nail into each corner of the plywood to hold it in place temporarily.[13]Most constructions experts recommend using 716in (1.1cm) oriented strand board (OSB) for small-scale roofing projects.[14]Plywood sheathing will provide structural support for your new roof, as well as give you a flat, stable surface to attach your other roofing materials too.2Measure and cut additional plywood to fill in any gaps in the sheathing. Plywood is sold in large sheets, which means that youll most likely need to use multiple sheets and cut them to fit. Try to cover the remaining space using as few pieces as possible, starting from the lower portion of the roof.[15]Its important to cut your plywood so that the end of each section covers half the width of the rafter its resting on. That way, the neighboring section will fit in easily beside it, and youll have a nice solid surface to nail into.[16]Make all your cuts with your plywood oriented the same way to ensure that the strand grain is running in a single direction. A consistent grain pattern will increase the strength of your roof sheathing.3Fasten your plywood sheathing to the rafters using 8D finishing nails. Drive nails every 6 inches (15cm) through the face of the plywood and down into the rafter below. Work your way up the length of each rafter from the bottom edge. When youre done, look for any loose sections of plywood that may require additional nails.[17]For the sake of caution, do your fastening from your ladder, reaching as far as you can safely with your hammer or roofing nailer.The combined strength of the OSB and supporting rafters will be capable of withstanding weights of up to several hundred pounds.Warning: Avoid climbing onto the roof until the plywood has been completely secured from the bottom. 4Cut fascia boards to finish the edges of your roof. Once you have the sheathing in place, your final task will be to mount fascia boards to cover the exposed ends of your rafters. Cut your 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) to match the length of the shed. Fasten the fascia boards by nailing them to the end face of every other rafter using 8D finishing nails.[18]Youll need to put up 2 fascia boards for gable, gambrel, skillion, and saltbox and other slanted roof styles1 for each sloped edge. For flat roofs, it will look best to install a fascia board on every side.When cutting your fascia boards, be sure to use the same size lumber as you did for your rafters to guarantee an exact fit.[19] Advertisement 1Attach strips of felt roofing paper for baseline protection. Line up the loose edge of the roll with one of the bottom corners of your roof and fasten it using 10-12 staples grouped closely together near the center of the strips edge. Gradually unroll the paper across the rooftop, stopping to add more staples every 12 feet (0.300.61m). Depending on the size of your roof, you may need to cut excess paper from the end of each strip using a straightedge and utility knife.[20]To ensure complete coverage, make sure the bottom edge of each strip overlaps the top of the strip below it by at least 2 inches (5.1cm), and that all strip ends overlap by at least 4 inches (10cm).Double-check that your roofing felt is straight, flush, and wrinkle-free before stapling it down.Roofing felt can be used on its own as a cheap and easy surfacing solution or as a preliminary substrate for attaching asphalt shingles.2Install asphalt shingles on your roof for an attractive traditional look.[21] Cut several full-sized shingles in half widthwise with the aid of a straightedge and utility knife and nail them along the bottom edge of your roof. These will serve as a starter strip. Proceed to install the remaining shingles from bottom to top in rows offset by 1 tile's width. Secure each shingle at the top using three 1in (2.5cm) roofing nails.[22]Use a chalk line or straightedge and framing square to ensure that your rows remain neat and orderly all the way across your roof.Make sure the top and bottom of each row overlap by 2 inches (5.1cm).3Put in a corrugated metal roof for a more durable, customizable option. Cut your sheet metal to size using tin snips, power shears, or an electric nibbler tool. Lay out each section vertically, so that the ridges slope toward the groundthis will create runoff. Fasten each sheet by driving sharp metal roofing screws into both sides of the ridges down the length of the underlying rafter.[23]You can find a wide selection of metal roofing options in various materials, styles, and colors at your local home improvement center.One of the biggest downsides of metal roofing is that the surface is vulnerable to rust and corrosion, which means it will need to be painted over every 2-3 years in order to maintain its appearance.4Try out EPDM rubber roofing for a simple and inexpensive covering. Load a paint roller with high-strength construction adhesive and brush the glue onto your plywood substrate in 35ft (0.911.52m) strips. Then, pause and unroll enough rubber sheeting to fit over the glued area. Continue until youve covered the entire roof, then trim the excess material from the edges using a straightedge and utility knife.[24]Apply your rubber sheeting carefully and take a few moments to smooth the surface afterwards to make sure its free of wrinkles, creases, or bubbles.EPDM is sold in large rolls that are designed to be draped over a roof in a single sheet and cut to fit. You can usually pick up a 10ft (3.0m) x 10ft (3.0m) roll for around $100. Advertisement Ask a Question Advertisement Measuring tape or rulerCarpenters pencil or felt-tipped markerOnline pitch calculator (optional)2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular saw 12in (1.3cm) plywood sheetsSkill sawConstruction adhesiveHammer4D nails8D finishing nailsMeasuring tapeCarpenters pencilStringCordless drill and wood screws (optional) 716in (1.1cm) oriented strand board2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular or skill sawStaple gun11.5in (2.53.8cm) galvanized staples8D finishing nailsMeasuring tapeStraightedge15lb (6.8kg) felt roofing paperAsphalt shinglesRoofing nailer1in (2.5cm) roofing nailsChalk line or framing squareCorrugated sheet metal10ft (3.0m) x 10ft (3.0m) roll of EPDM rubber roofingMeasuring tapeStraightedgeUtility knife Co-authored by: Roofing Contractor & Maintenance Professional This article was co-authored by David Bitan. David Bitan is a roofing professional, licensed contractor, and the owner and founder of Bumble Roofing based in Southern California. With over 12 years of construction industry experience, David specializes in restoring, repairing, and maintaining residential, commercial, and industrial roofs. With over 60 years of combined experience, Bumble Roofing provides easy, friendly services to structures including residential, commercial, industrial, multi-family, and government buildings along with hospitals, hotels, and churches. This article has been viewed 355,470 times. Co-authors: 22 Updated: June 4, 2025 Views:355,470 Categories: Building Roofs | Sheds PrintSend fan mail to authors Thanks to all authors for creating a page that has been read 355,470 times. 1Choose a style for your roof. There are many different roof styles used for building sheds. The most common styles include gable, gambrel, skillion, and saltbox roofs. Each of these roof types is sloped to provide runoff for precipitation, which means the design you go with will largely be a matter of aesthetic preference.[1]Gable roofs feature a single central peak, with two symmetrical sloped sides. They are most often spotted on houses.Gambrel roofs are the style traditionally used for barns. Each side of a gambrel roof has two sloped faces, the lower of which is either perpendicular or at a slight angle to the ground.Skillion roofs are one of the simplest roof styles used in shed-building. A skillion roof is made up of a single flat plane which slopes gradually from top to bottom. [2]Saltbox roofs look like skillion roofs, but with an extra short slope opposite the long angled plane, like an upside-down check mark. They aren't seen on sheds as frequently as other styles, but are still a popular choice. 2Determine your desired roof pitch. The term pitch refers to the slope of the roof. In order to adhere to standardized building codes and ensure adequate runoff, your sheds roof must have a pitch of at least 3-12 (read as three-in-twelve). Beyond that, youre free to choose whatever slope best fits your plans for your shed.A slope of 6-12, for example, means that for every 12 inches (30cm) of length, the angle of your roof rises 6 inches (15cm).The steeper the slope of your roof, the better it will deflect rain, sleet, snow, falling leaves, and other materials that find their way on top.Tip: Pull up a pitch calculator online to translate a given pitch into useful specifications like angle, grade, and rafter length.[3] Advertisement 3Mark the location of your rafters along the top of the shed. When installing rafters, its generally best to follow the same spacing as your wall studs. Use a carpenters pencil or felt-tipped marker to draw a line on your wall plate timbers where each set of rafters will go. In the majority of cases, they'll be about 2024 inches (5161cm) apart on center.[4]Proper placement of your rafters will maximize support while minimizing the overall amount of materials used.If your shed already has rafters in place and you just need to put in or replace the roof itself, you can skip straight to installing your new roofing materials. Advertisement 1Measure your rafter boards for your preferred roof style and pitch. The exact length and angle of your rafters will depend on the overall size of your shed, as well as the style and slope youve chosen. The rafters on a steeply-sloped roof, for instance, will be much longer and have more end cuts than those on a flat roof. Once youve determined the measurements you need, mark them directly onto a series of 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boards using a carpenters pencil.[5]If youre planning on building a gable roof with a pitch of 4-12 for a shed thats 200 inches (510cm) wide, your rafter boards would need to be 105.3 inches (267cm) long on each side.Dont forget to cut the ends of each board to the appropriate angle to allow them to fit together at the peak.Tip: To make the process as efficient as possible, either mark all of your boards at once or measure and cut one to use as a template for the others. 2Cut your rafter boards to size using a circular saw. Guide the blade over the end of the board slowly, aiming to make each cut as straight and precise as possible. Be sure to adjust your saws settings according to the necessary length and angle of your rafters.Take care of all of your sawing at one time. You can then move on to assembling the rafters into trusses and attaching them to your shed frame.3Make a birdsmouth notch at the end of each rafter to help it fit into place. A birdsmouth notch is an angled cut that allows a rafter to sit level on top of a wall plate rather than balancing on top. Position your rafter boards at the same angle as your roofs pitch, then draw a 90-degree angle up from the bottom edge of each board, with the lines corresponding to the height and width of the wall plate, respectively. Cut along these lines to make the notch.[6]You can also figure out the angle for your birdsmouth notch by placing a piece of scrap wood the same width as the distance between the rafter and the wall plate beside your rafter beam and tracing it onto one side of the beam.[7]Note that your notches will need to be higher up on your rafter beams if youre planning on including an overhang.4Assemble your rafter halves into trusses using plywood gusset plates. Trace the upper 810 inches (2025cm) of your rafter peak onto a sheet of 12in (1.3cm) plywood and cut out the triangular plate with a skill saw. Apply a thin layer of construction adhesive to the backside of each plate, then align it with the joint where two rafter boards and press it firmly into place. Secure the plates by driving 2-3 nails or wood screws through the plate on either side.[8]Gussets serve to reinforce connection sites between individual wood members, lending added strength and durability.5Attach the end rafters to the wall plates of your shed frame. Lower the first rafter truss into place at either the front or back of the shed. Fasten the truss by driving 8D finishing nails at an angle down through the board just above the birdsmouth notch and into the underlying wall plate. Use 3 nails for each side. When youre done, install the opposing truss in the same fashion.[9]Make sure the birdsmouth notches seat securely over the wall plates, and that the outer edge of the truss is flush with the outer edge of the wall.If youre working alone, nail an unused 2in (5.1cm) x 4in (10cm) vertically to both ends of your shed. This will help hold your end trusses upright while you focus on positioning on the wall plates.[10]6Run a string between your end trusses to help you set the other rafters. Drive a nail straight down into one of your rafter peaks and wrap the string around it a few times. Pull the string taut and anchor it around a second nail on the opposite end of the shed. The string will serve as a visual guide to help you make sure the rest of your rafters are set and centered correctly.[11]If you dont want to leave nail holes in your rafters, you can also tie a knot at both ends of the string and tuck the knots into the joints where the boards of the rafter peaks meet.Pull your centering string tight enough to be perfectly straight, but not so tight that it places strain on your end rafters.7Set your remaining rafters using your centering string for reference. Work your way from one end of the shed to the other putting your rafter trusses in place and checking their alignment against the string. When youre satisfied with the positioning of a truss, toe-nail it using 8D finishing nails the way you did your end rafters, then move on to the next truss.[12]Ideally, you should have a helper around to hand you up every next truss whenever youre ready for it.Dont forget to remove your centering string once you have all of your rafters installed successfully. Advertisement 1Cover your rafter trusses with plywood sheathing. Put down your first sheet of plywood at the corner of one end of the roof. Make sure its lying horizontally across the exposed rafters, and that the edges are flush with the edges of the end rafters. Drive a nail into each corner of the plywood to hold it in place temporarily.[13]Most constructions experts recommend using 716in (1.1cm) oriented strand board (OSB) for small-scale roofing projects.[14]Plywood sheathing will provide structural support for your new roof, as well as give you a flat, stable surface to attach your other roofing materials too.2Measure and cut additional plywood to fill in any gaps in the sheathing. Plywood is sold in large sheets, which means that youll most likely need to use multiple sheets and cut them to fit. Try to cover the remaining space using as few pieces as possible, starting from the lower portion of the roof.[15]Its important to cut your plywood so that the end of each section covers half the width of the rafter its resting on. That way, the neighboring section will fit in easily beside it, and youll have a nice solid surface to nail into.[16]Make all your cuts with your plywood oriented the same way to ensure that the strand grain is running in a single direction. A consistent grain pattern will increase the strength of your roof sheathing.3Fasten your plywood sheathing to the rafters using 8D finishing nails. Drive nails every 6 inches (15cm) through the face of the plywood and down into the rafter below. Work your way up the length of each rafter from the bottom edge. When youre done, look for any loose sections of plywood that may require additional nails.[17]For the sake of caution, do your fastening from your ladder, reaching as far as you can safely with your hammer or roofing nailer.The combined strength of the OSB and supporting rafters will be capable of withstanding weights of up to several hundred pounds.Warning: Avoid climbing onto the roof until the plywood has been completely secured from the bottom. 4Cut fascia boards to finish the edges of your roof. Once you have the sheathing in place, your final task will be to mount fascia boards to cover the exposed ends of your rafters. Cut your 2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) to match the length of the shed. Fasten the fascia boards by nailing them to the end face of every other rafter using 8D finishing nails.[18]Youll need to put up 2 fascia boards for gable, gambrel, skillion, and saltbox and other slanted roof styles1 for each sloped edge. For flat roofs, it will look best to install a fascia board on every side.When cutting your fascia boards, be sure to use the same size lumber as you did for your rafters to guarantee an exact fit.[19] Advertisement 1Attach strips of felt roofing paper for baseline protection. Line up the loose edge of the roll with one of the bottom corners of your roof and fasten it using 10-12 staples grouped closely together near the center of the strips edge. Gradually unroll the paper across the rooftop, stopping to add more staples every 12 feet (0.300.61m). Depending on the size of your roof, you may need to cut excess paper from the end of each strip using a straightedge and utility knife.[20]To ensure complete coverage, make sure the bottom edge of each strip overlaps the top of the strip below it by at least 2 inches (5.1cm), and that all strip ends overlap by at least 4 inches (10cm).Double-check that your roofing felt is straight, flush, and wrinkle-free before stapling it down.Roofing felt can be used on its own as a cheap and easy surfacing solution or as a preliminary substrate for attaching asphalt shingles.2Install asphalt shingles on your roof for an attractive traditional look.[21] Cut several full-sized shingles in half widthwise with the aid of a straightedge and utility knife and nail them along the bottom edge of your roof. These will serve as a starter strip. Proceed to install the remaining shingles from bottom to top in rows offset by 1 tile's width. Secure each shingle at the top using three 1in (2.5cm) roofing nails.[22]Use a chalk line or straightedge and framing square to ensure that your rows remain neat and orderly all the way across your roof.Make sure the top and bottom of each row overlap by 2 inches (5.1cm).3Put in a corrugated metal roof for a more durable, customizable option. Cut your sheet metal to size using tin snips, power shears, or an electric nibbler tool. Lay out each section vertically, so that the ridges slope toward the groundthis will create runoff. Fasten each sheet by driving sharp metal roofing screws into both sides of the ridges down the length of the underlying rafter.[23]You can find a wide selection of metal roofing options in various materials, styles, and colors at your local home improvement center.One of the biggest downsides of metal roofing is that the surface is vulnerable to rust and corrosion, which means it will need to be painted over every 2-3 years in order to maintain its appearance.4Try out EPDM rubber roofing for a simple and inexpensive covering. Load a paint roller with high-strength construction adhesive and brush the glue onto your plywood substrate in 35ft (0.911.52m) strips. Then, pause and unroll enough rubber sheeting to fit over the glued area. Continue until youve covered the entire roof, then trim the excess material from the edges using a straightedge and utility knife.[24]Apply your rubber sheeting carefully and take a few moments to smooth the surface afterwards to make sure its free of wrinkles, creases, or bubbles.EPDM is sold in large rolls that are designed to be draped over a roof in a single sheet and cut to fit. You can usually pick up a 10ft (3.0m) x 10ft (3.0m) roll for around $100. Advertisement Ask a Question Advertisement Measuring tape or rulerCarpenters pencil or felt-tipped markerOnline pitch calculator (optional)2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular saw 12in (1.3cm) plywood sheetsSkill sawConstruction adhesiveHammer4D nails8D finishing nailsMeasuring tapeCarpenters pencilStringCordless drill and wood screws (optional) 716in (1.1cm) oriented strand board2in (5.1cm) x 4in (10cm) or 2in (5.1cm) x 6in (15cm) boardsCircular or skill sawStaple gun11.5in (2.53.8cm) galvanized staples8D finishing nailsMeasuring tapeStraightedge15lb (6.8kg) felt roofing paperAsphalt shinglesRoofing nailer1in (2.5cm) roofing nailsChalk line or framing squareCorrugated sheet metal10ft (3.0m) x 10ft (3.0m) roll of EPDM rubber roofingMeasuring tapeStraightedgeUtility knife Co-authored by: Roofing Contractor & Maintenance Professional This article was co-authored by David Bitan. David Bitan is a roofing professional, licensed contractor, and the owner and founder of Bumble Roofing based in Southern California. With over 12 years of construction industry experience, David specializes in restoring, repairing, and maintaining residential, commercial, and industrial roofs. With over 60 years of combined experience, Bumble Roofing provides easy, friendly services to structures including residential, commercial, industrial, multi-family, and government buildings along with hospitals, hotels, and churches. This article has been viewed 355,470 times. Co-authors: 22 Updated: June 4, 2025 Views:355,470 Categories: Building Roofs | Sheds PrintSend fan mail to authors Thanks to all authors for creating a page that has been read 355,470 times.

How to build a shed roof with overhang. How to build a shed roof with corrugated sheets. How to build a shed roof porch. How much does it cost to build a shed roof. How to build a shed roof on a house. How to build a shed roof attached to house. How to build a shed roof uk. How to build a shed roof over a deck. How to build a shed roof in chief architect. How to build a shed roof step by step. How to build a shed roof off a house. How to build a shed roof over a door. How to build a shed roof truss. How to build a shed roof patio cover. How to build a shed roof frame.