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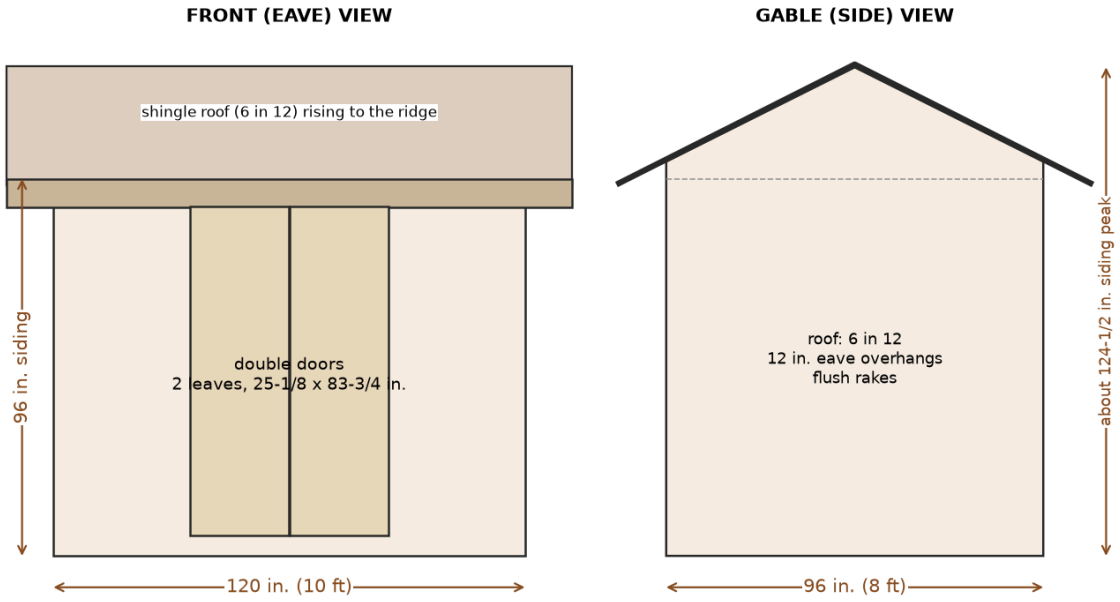
8x10 Gable Shed: Printable Plan

Materials list, cut list, key steps, and diagrams. Free to print and use.

Not engineered or load-tested. No engineer has reviewed this plan, and we haven't load-tested a shed built from it. Member sizes come from 2024 IRC tables for up to 70 psf ground snow and wind below 140 mph Exposure B or 130 mph Exposure C, using No. 2 lumber. Permit rules, setbacks, height limits, snow and wind loads, and frost depth are set locally: check with your building department before you build, and resize the framing if your loads are higher. The skids are checked against the closest IRC table (deck beams), which doesn't cover the wall and roof loads on the outer skids, so have your building department confirm the block spacing.

At a glance: 96 x 120 in. (8 x 10 ft, 80 sq ft) outside of framing; 2x4 walls 89-3/4 in. tall (studs 85-1/4 in.); 6-in-12 gable roof, ridge along the 10-ft length; 2x6 rafters and ceiling joists at 16 in., 12 in. eave overhangs; 2x8 ridge; a 1-1/4 in. x 20 ga ridge strap over each interior rafter pair (instead of collar ties); 48-1/2 x 81-1/4 in. door opening (2-2x6 header, 2 king studs and 1 jack each side); 1 window 24 x 24 in.; floor of 2x6 joists at 16 in. on three 2-ply 2x6 skids on 12 solid blocks. All sizes are actual lumber sizes. Full instructions, the sizing table, and sources: shedandbench.com/8x10-shed-plans/

8x10 gable shed: overall dimensions



Heights from the bottom of the floor rim. Add skid, block, and roofing thickness for total height. Window (24 x 24 in. RO) is in the back wall.

Overall dimensions

Sizing summary

Each member lists its design condition and source table, so you can check it against your local loads.

Design conditions used throughout

- Ground snow load: up to 70 psf (the highest column in the IRC rafter and header tables); roof live load 20 psf.
- Wind: ultimate design wind speed below 140 mph in Exposure B or below 130 mph in Exposure C. (the range for the king studs in IRC Table R602.7.5; uplift table R802.11 covers up to 140 mph).
- Lumber: No. 2 grade Douglas fir-larch, hem-fir, Southern pine, or spruce-pine-fir (check the grade stamp). Treated lumber for the skids and floor.
- Building width 8 ft; framing at 16 in. on center.

If your loads are higher, use the AWC Span Options Calculator or ask your building department.

Member	Size used	Design condition and table	Allowed	This shed
Rafters	2x6 No. 2 at 16 in.	IRC Table R802.4.1(7): 70 psf ground snow, 20 psf dead, ceiling not attached, L/180	7 ft 5 in. (SP) to 8 ft 1 in. (DF-L), horizontal	47-1/4 in. (3 ft 11-1/4 in.) wall to ridge
Rafter overhang	12 in.	IRC R802.7.1.1: notched cantilever	24 in. max., 3-1/2 in. depth left at the birdsmouth	12 in., about 3-15/16 in. left
Ridge board	2x8	IRC R802.3: 1 in. nominal min., at least as deep as the rafter's cut end	6-1/8 in. plumb cut needs more than a 2x6	7-1/4 in.
Ceiling joists (rafter ties)	2x6 No. 2 at 16 in.	IRC Table R802.5.1(2): attic with limited storage, 20 psf live, L/240	12 ft 0 in. (SP) to 13 ft 0 in. (DF-L)	89 in. (7 ft 5 in.) clear
Heel joints	5-16d common	IRC Table R802.5.2(1): 5:12 row, 16 in. spacing, 12-ft span column	3 / 3 / 4 / 5 nails at 20 / 30 / 50 / 70 psf	5 nails
Ridge straps (instead of collar ties)	1-1/4 in. x 20 ga strap at each rafter pair	IRC R802.4.6: ridge straps may replace collar ties; at least 1-1/4 in. x 20 gage, three 10d common nails into the top edge of each rafter, closest nail at least 2-3/8 in. from the rafter end	—	7 straps, one per interior pair
Door header	2-2x6	IRC Table R602.7(1): roof and ceiling, 12-ft building width (the narrowest column)	6-0 / 5-1 / 4-6 at 30 / 50 / 70 psf, 1 jack	48-1/2 in. (4 ft 1/2 in.) opening
King studs at the door	2 each side	IRC Table R602.7.5: openings over 4 ft use the 6-ft row (footnote a); 2 king studs below 140 mph Exposure B or 130 mph Exposure C	2	2 each side
Window header	2-2x6	IRC Table R602.7(1), same column	6-0 / 5-1 / 4-6 at 30 / 50 / 70 psf, 1 jack	2 ft 0 in. opening, 1 king each side
Wall studs	2x4 at 16 in.	IRC Table R602.3(5): bearing wall, roof and ceiling only	24 in. o.c., 10 ft height	85-1/4 in. studs
Floor joists	2x6 No. 2 at 16 in.	IRC Table R502.3.1(2): 40 psf live, 10 psf dead, L/360	9 ft 1 in. (HF) to 9 ft 9 in. (DF-L)	About 43-1/2 in. clear between skids
Skids	2-ply 2x6 treated	IRC Table R507.5(1) deck beams: 40 psf live, 10 psf dead, wet service; 10-ft joist column (see notes)	IRC 2021: 5-4 (SP), 4-9 (DF-L/HF/SPF); IRC 2024: 6-5 (SP), 5-8 (DF-L/HF/SPF)	Blocks about 37-1/4 in. apart
Rafter-to-wall ties	Simpson H2.5A	Uplift demand: IRC Table R802.11 (see "Wind and uplift"). Tie capacity: Simpson catalog p. 277 (manufacturer rating, not a code value)	615 lb (SPF/HF), manufacturer rating	201 lb max. at 130 mph, Exposure C (the plan's wind range); 247 lb at 140 mph C

Materials list

: how much lumber an 8x10 shed needs

Quantities include a spare rafter board. Buy extra 2x4s if you're new to framing.

Foundation and floor

- 6 – 2x6 x 10 ft treated, rated for ground contact (6 plies of 120 in. for three 2-ply skids)
- 12 – solid concrete blocks, at least 8 x 16 in. (three rows of 4; see “Site and foundation”)
- 12 – concrete pavers, 16 x 16 in. (recommended, one under each block)
- Crushed gravel for a 10 x 12 ft pad (about 1.5 cubic yards at 4 in. deep) and landscape fabric
- 7 – 2x6 treated: 1 x 8 ft, 2 x 10 ft, 4 x 16 ft (2 rim joists of 120 in. and 9 floor joists of 93 in.)
- 3 – 23/32 in. APA Rated Sturd-I-Floor panels, span rating 24 oc, tongue-and-groove, 4 ft x 8 ft
- 4 (minimum) ground anchors with cable and clamps, sized for your soil by the anchor maker

Wall framing

- 39 – 2x4 x 8 ft (studs, jacks, sill, cripples, gable studs, ridge posts)
- 6 – 2x4 x 10 ft (front and back wall plates)
- 4 – 2x4: 2 x 8 ft, 2 x 16 ft (gable-wall plates)
- 1 – 2x6 x 10 ft (door header, 2 plies)
- 1 – 2x6 x 8 ft (window header, 2 plies of 27 in.)
- 1/2 in. plywood scraps for header spacers (from the roof sheathing offcuts)

Roof framing and roofing

- 10 – 2x6 No. 2 x 12 ft (18 rafters, 2 per board, plus a spare board)
- 7 – 2x6 No. 2 x 8 ft (ceiling joists)
- 1 – 2x8 No. 2 x 10 ft (ridge board)
- 7 – ridge straps, at least 1-1/4 in. wide and 20 gauge (for example Simpson Strong-Tie LSTA18, 1-1/4 x 18 in., 20 gauge), plus 10d common nails (3 x 0.148 in.)
- 5 – 15/32 in. or 1/2 in. APA Rated Sheathing, span rating 32/16, 4 ft x 8 ft
- Roofing underlayment for about 112 sq ft plus laps
- Drip edge, 5 pieces x 10 ft (about 42 linear ft of eaves and rakes, plus laps)
- Architectural asphalt shingles, 4 bundles (GAF says 3 bundles of Timberline HDZ cover 98.4 sq ft; this roof is about 112 sq ft, plus cutting waste), plus starter strip shingles for about 42 linear ft and hip-and-ridge cap shingles for 10 ft of ridge, per the shingle maker
- Roofing nails: IRC R905.2.5 calls for galvanized steel, stainless steel, aluminum, or copper roofing nails with a 12-gauge minimum shank and 3/8 in. minimum head, long enough to go through the sheathing (it’s thinner than 3/4 in.)
- 18 – Simpson Strong-Tie H2.5A hurricane ties, plus 180 – 0.131 x 2-1/2 in. nails (or Simpson SD9212 screws)

Siding, trim, doors, and window

- 12 – 4 ft x 8 ft panel siding sheets (this plan follows LP SmartSide Strand Substrate 76 Series panel instructions): 5 for the eave walls, 4 for the gable walls, 1 for the gable triangles, 2 for the door leaves
- 2 – 1x8 exterior trim x 10 ft (fascia)
- 4 – 1x6 exterior trim x 8 ft (rake boards)
- 13 – 1x4 exterior trim x 8 ft (8 corner boards, door rails and braces, astragal, window trim)
- Z-flashing, 4 pieces x 10 ft (gable joints, over the doors and window)
- 1 – clear polycarbonate sheet, 1/4 in., cut 26 x 26 in. (fixed window); or shed window whose rough opening fits the framing
- 6 – heavy-duty exterior T-hinges or strap hinges, 2 barrel bolts for the fixed leaf, a hasp or gate latch, 2 door pulls
- 1/4 in. hardware cloth, small roll (for the open rafter bays above the walls)

Fasteners and finishing (nail sizes from IRC Table R602.3(1) unless noted; IRC R304.3.1 requires hot-dipped zinc-coated galvanized, stainless, silicon bronze, or copper fasteners in preservative-treated wood)

- 16d common nails (3-1/2 x 0.162 in.), hot-dip galvanized for treated lumber, for framing and heel joints

- 10d common nails (3 x 0.148 in.) for rafters, ridge straps, and toenailing
- 10d nails (3 x 0.128 in.), hot-dip galvanized, for nailing the skid plies together (IRC R507.5)
- 8d common nails (2-1/2 x 0.131 in.) for the floor deck, roof sheathing, and ceiling joist toenails; hot-dip galvanized for toenailing joists to skids
- Siding nails: 6d (0.113 in. shank) hot-dipped galvanized, long enough to go at least 1-1/2 in. into framing (LP’s minimum for 38 and 76 Series panels; not electroplated)
- 1-5/8 in. exterior screws (trim, doors)
- Exterior sealant (LP calls for ASTM C920, Class 25 minimum), exterior primer and paint

Cut list

Part	Material	Qty	Length / size	Notes
Skid plies	2x6 treated (ground contact)	6	120 in.	Nail in pairs: 3 skids
Rim joists	2x6 treated	2	120 in.	Front and back
Floor joists	2x6 treated	9	93 in.	96 in. minus two 1-1/2 in. rims
Floor deck	23/32 in. T&G panel	3	Rows of 96 + 24 / 48 + 72 in. along the 120 in. length	Long edges across the joists; end joints on joists at the in.-marks shown
Front wall plates	2x4	3	120, 120, 113 in.	Bottom, top, upper top (stops 3-1/2 in. short of each end)
Front wall studs	2x4	9	85-1/4 in.	2 end, 3 common, 4 king
Door jack studs	2x4	2	79-3/4 in.	1 each side
Door header	2x6	2	51-1/2 in.	Plus 1/2 in. plywood spacer, 5-1/2 x 51-1/2 in.
Back wall plates	2x4	3	120, 120, 113 in.	As front
Back wall studs	2x4	9	85-1/4 in.	2 end, 5 common, 2 king
Window jack studs	2x4	2	79-3/4 in.	
Window header	2x6	2	27 in.	Plus 1/2 in. plywood spacer, 5-1/2 x 27 in.
Window sill	2x4	1	24 in.	Laid flat
Window cripples	2x4	2	54-1/4 in.	Under each sill, 4 in. in from each side of the opening
Gable wall plates	2x4	6	89, 89, 96 in. per wall	Upper top plate laps onto the eave walls
Gable wall studs	2x4	14	85-1/4 in.	7 per wall, 16 in. on center
Gable studs	2x4	8	Long points 6-5/8, 14-5/8 in. (4 of each)	Top cut at 6 in 12; cut to fit under the end rafters
Ridge posts	2x4	2	20-3/4 in.	One per gable, centered
Rafters	2x6 x 12 ft (2 per board)	18 (+2 spare)	66-1/4 in.	Ridge plumb cut, birdsmouth, plumb tail; each needs about 69 in. of board (the parallel plumb cuts add 2-3/4 in.)
Ceiling joists	2x6 x 8 ft	7	96 in.	Clip top corners about 1-1/8 in. at each end to the roof line
Ridge board	2x8 x 10 ft	1	120 in.	
Fascia	1x8	2	120 in.	Front and back rafter tails
Rake boards	1x6	4	Cut to fit (about 67 in.)	Over the end rafters
Corner boards	1x4	8	96 in.	Both faces of each corner
Door rails	1x4	4	22-1/8 in.	
Door braces	1x4	2	Cut to fit (diagonal)	Low end at each leaf’s hinge side

Astragal	1x4	1	83-3/4 in.	On the active leaf
Roof sheathing	1/2 in. rated sheathing	5 sheets	Per side: 48 in. course + about 19 in. rip; pieces 96 + 24 / 48 + 72 in. along the length	About 67 in. down each slope
Eave wall siding	Panel siding	5	48 x 96 in. (plus a 24 in. rip per wall)	Notch the top edge about 1-5/8 x 2-1/8 in. at every rafter tail
Gable wall siding	Panel siding	4	2 x 48 x 96 in. per wall	Flush with the front and back corners
Gable triangles	Panel siding	1	Cut to fit, 48 in. wide pieces	Butt-and-flash joint at the top plate
Door leaves	Panel siding	2	25-1/8 x 83-3/4 in.	

How the rafter numbers work. The run from the outside of the wall to the face of the ridge board is 48 in. (half the building) minus 3/4 in. (half the ridge) = 47-1/4 in. Add the 12 in. overhang for 59-1/4 in. of horizontal run. At 6 in 12, each inch of run is 1.118 in. along the rafter, so the rafter is about 66-1/4 in. along each edge, with the heel line about 52-13/16 in. from the ridge long point.

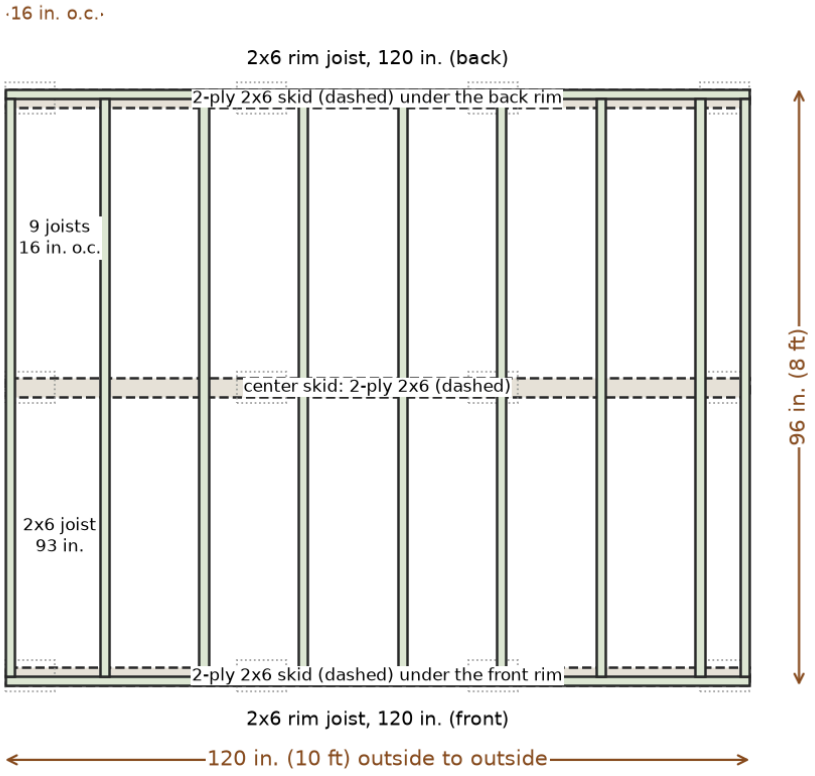
Key steps

1. **Skids and floor.** Nail each pair of 120 in. 2x6 plies with two rows of 10d nails 16 in. apart; set the three skids on the blocks (solid, at least 8 x 16 in., each on a 16 x 16 in. concrete pad or paver: recommended; check soil and footing rules with your building department; 46-1/2 in. apart center to center, blocks about 37-1/4 in. apart). Build the floor frame: 120 in. rims, 9 joists at 93 in., 16 in. on center, three 16d end nails per joint; square it (diagonals about 153-11/16 in.). Toenail each joist to each skid with three 8d nails, attach the ground anchors, and nail down the 23/32 in. T&G deck (8d at 6 in. edges / 12 in. field).
2. **Front wall.** Plates 120, 120, 113 in.; studs 85-1/4 in.; commons at 16, 96, 112 in. Door opening 48-1/2 in. wide from 35-3/4 to 84-1/4 in., 2 king studs and 1 jack stud (79-3/4 in.) each side; 2-2x6 header 51-1/2 in. long with a 1/2 in. plywood spacer, tight under the top plate (opening 81-1/4 in. tall). No cripples above the header.
3. **Back wall.** Same plates; window rough opening 24 x 24 in. at 56 to 80 in., bottom 57-1/4 in. above the deck; jacks 79-3/4 in.; 2-2x6 header 27 in.; flat 2x4 sill on two cripples (54-1/4 in.).
4. **Gable walls.** Plates 89, 89, 96 in. per wall; studs at 16 in. on center from the front corner; the 96 in. upper top plate laps onto the eave walls. Face-nail the corners (16d at 16 in.) and brace plumb and square.
5. **Rafters and ridge.** Pattern rafter: ridge plumb cut, heel line 52-13/16 in. from the ridge long point along the top edge, birdsmouth with a 3-1/2 in. seat and 1-3/4 in. plumb cut, tail 13-7/16 in. further on, plumb cut (66-1/4 in. overall). Test, then cut 18. Ridge posts 20-3/4 in. at the center of each gable; 120 in. 2x8 ridge. Set rafters in opposing pairs at 16 in. on center (3-10d toenails or 2-16d end nails at the ridge; 2-10d toenails at the plate (3 at the four end rafters)).
6. **Ties.** 7 ceiling joists (96 in. 2x6, ends clipped about 1-1/8 in. to the roof line) beside each interior pair, five 16d nails per heel joint; a ridge strap (1-1/4 in. x 20 ga, such as LSTA18) centered over the ridge at each interior pair, holes filled per the strap maker's instructions with at least three 10d common nails into the top edge of each rafter, none closer than 2-3/8 in. to the rafter end; H2.5A hurricane tie at every rafter at both walls (18), on the inside face of the wall, on the side away from the ceiling joist (ESR-2613), clear of the siding notches; gable studs cut to fit (long points 6-5/8, 14-5/8 in.).
7. **Roof.** 32/16 sheathing, full sheets at the eave, top course ripped to about 19 in.; 8d at 6 in. edges and field (4 in. at every rafter if your design wind is over 130 mph Exposure B or 110 mph Exposure C); 1x8 fascia; drip edge, underlayment, starter strips, shingles (4 bundles), ridge cap.
8. **Siding and trim.** Notch the top edge of each eave-wall panel about 1-5/8 x 2-1/8 in. at every rafter tail (the tails hang about 2-1/16 in. below the wall top at the siding face). Hang the panels from the bottom of the rim to the top of the wall, cut out the door and window openings, flash and hang the gable triangles, add corner and rake trim, and close the eaves with hardware cloth.
9. **Doors and window.** Two 25-1/8 x 83-3/4 in. leaves with 1x4 rails (22-1/8 in.) and a diagonal brace, three hinges each, an astragal on the active leaf; polycarbonate window set in sealant with 1x4 trim and Z-flashing above.

Wear eye and hearing protection. Get help to raise walls and set the ridge. Use fasteners rated for treated lumber. Call 811 before you dig or drive ground anchors.

Diagrams

8x10 floor frame on three skids (top view)

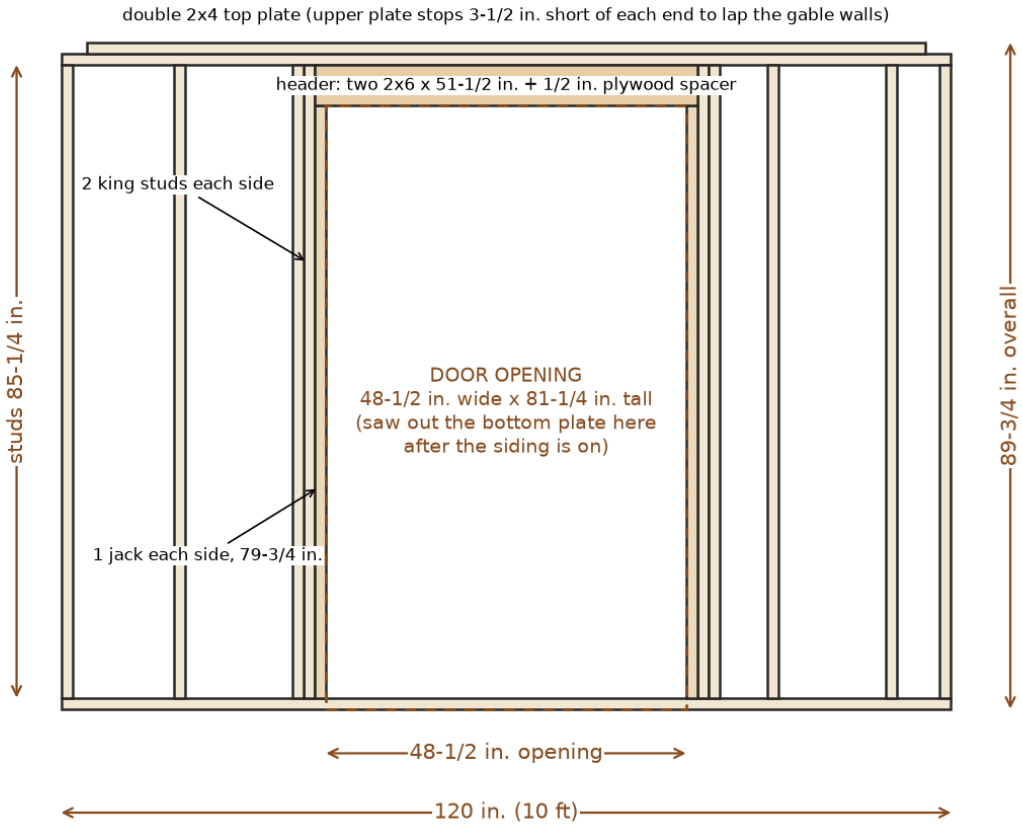


Dotted boxes: solid concrete blocks, 4 under each skid, about 37-1/4 in. apart center to center, first and last 4 in. in from the ends.

Joists: flush at each end, then centered at 16, 32, 48 ... 112 in. Deck: 23/32 in. tongue-and-groove panels, long edges across the joists.

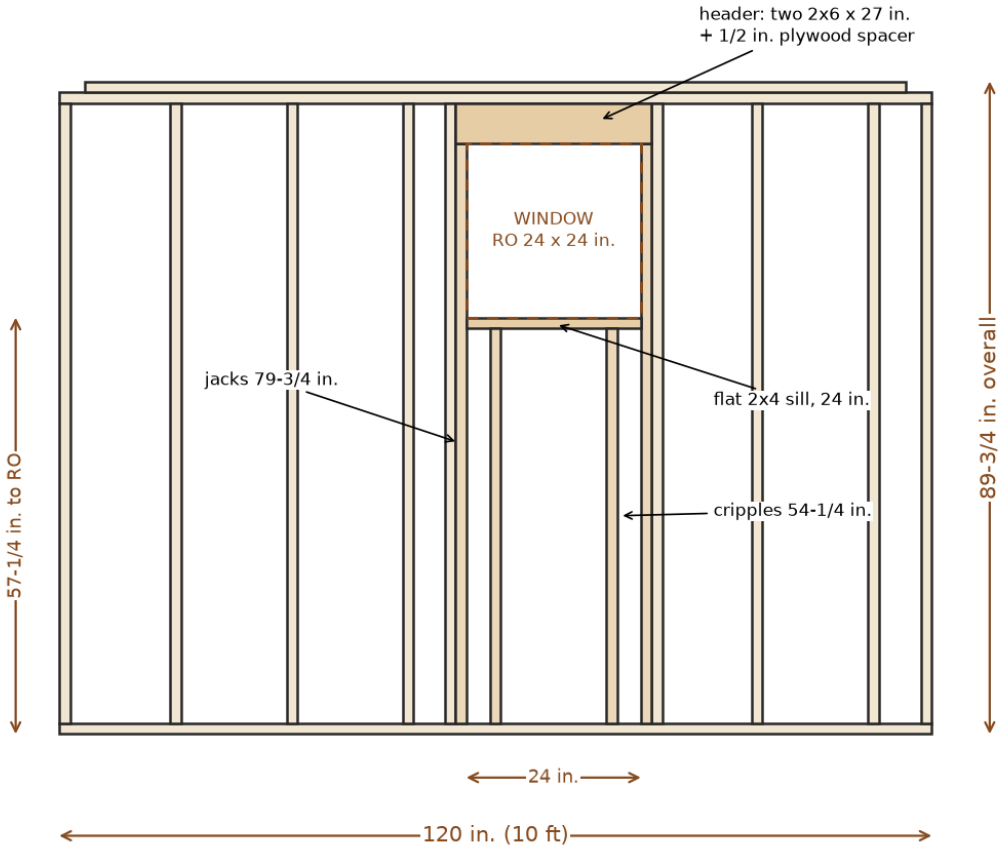
Floor frame and blocks

Front (eave) wall with 48-1/2 in. double-door opening



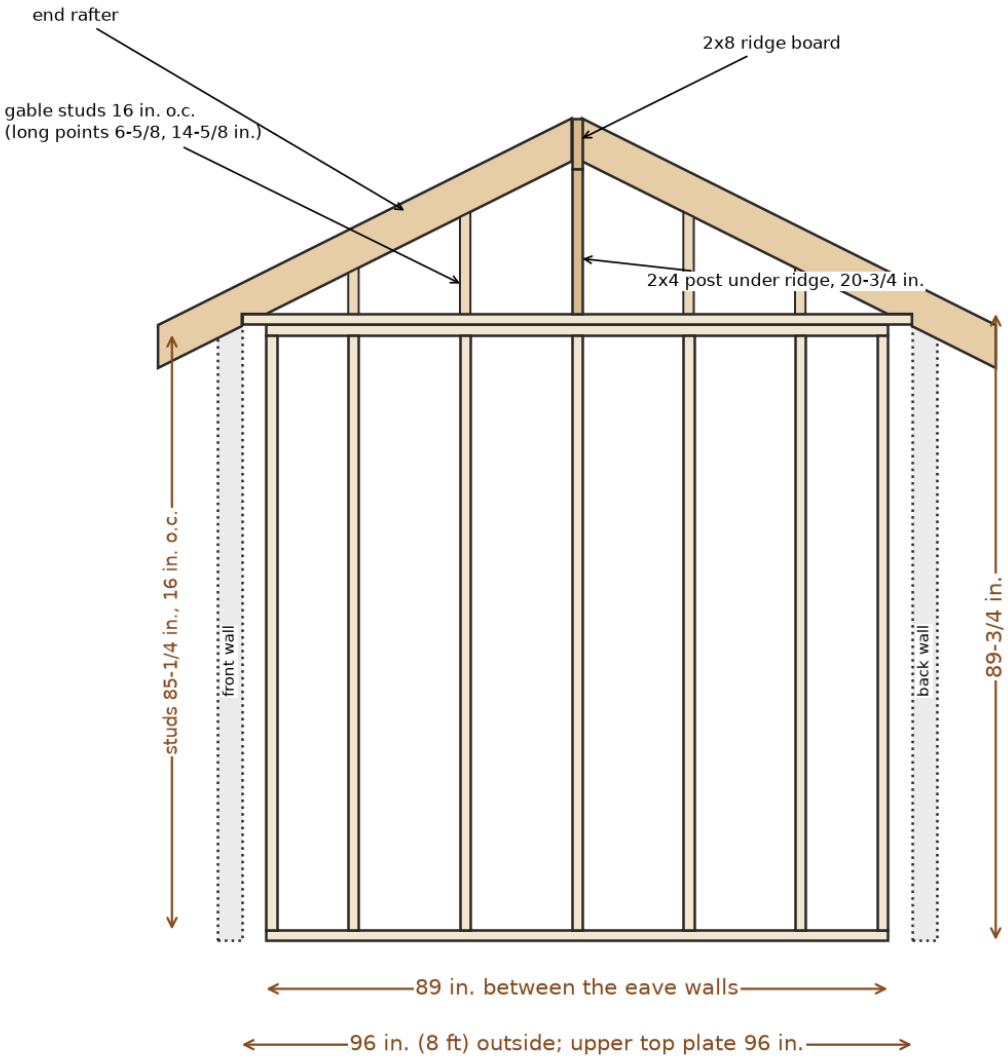
Front wall framing

Back (eave) wall with window opening



Back wall framing

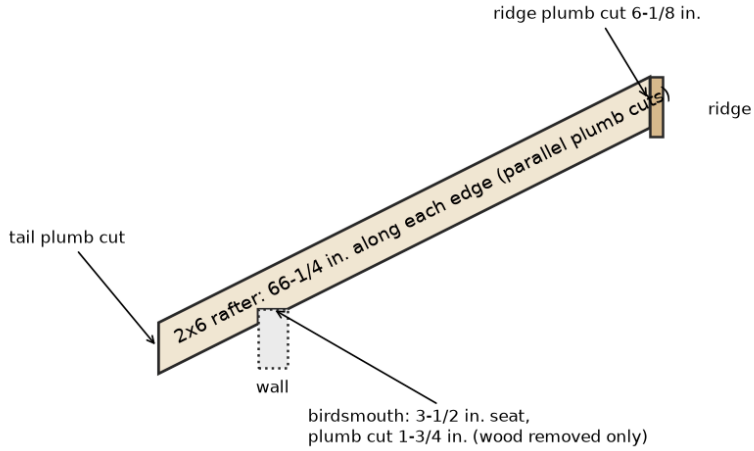
Gable (side) wall and gable-end framing



Studs at 16 in. on center put a stud under each siding joint and under the ridge post (48 in.).

Gable wall and gable-end framing

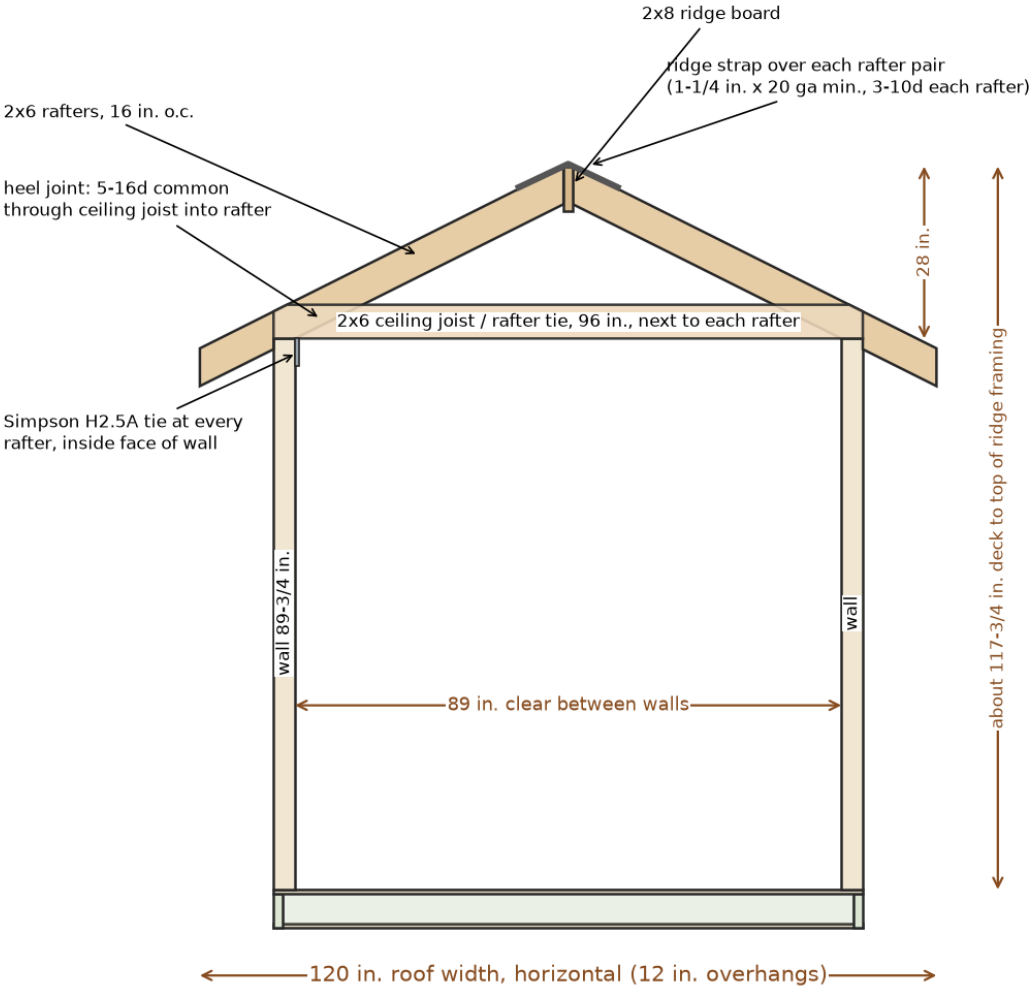
Rafter pattern (cut one, test it, then copy it)



Along the top edge: 52-13/16 in. from the ridge long point to the heel line; 13-7/16 in. tail. Slope 6 in 12.
The rafter's bottom edge passes through the inner corner of the wall plate, so the tail hangs 1-3/4 in. below the top of the wall at its outside face.

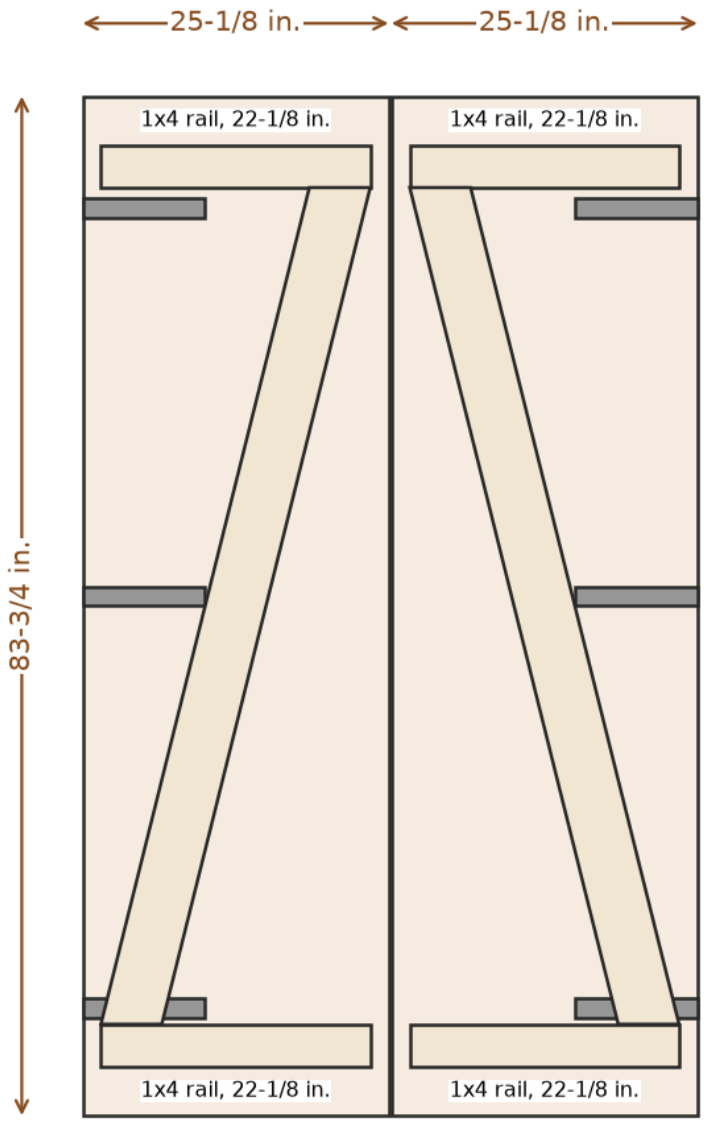
Rafter pattern

Section through the roof: what holds the walls together



Roof section

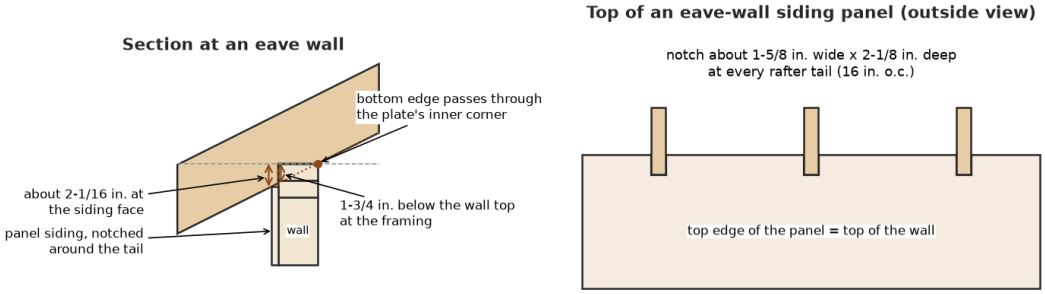
Double doors, Z-frame (inside face)



1/4 in. gap; 1x4 astragal on the outside of the active leaf covers it

Inside face. Hinges (gray) on the outer edges; each brace's low end is on its hinge side.

Eave detail: notch the siding around each rafter tail



Eave detail: siding notch at each rafter tail