Basics of asphalt-roofing layout

The author overhangs the asphalt shingles 1 in. on both the rake and the eaves. Before nailing down any shingles, he strikes two vertical bond lines and a series of horizontal lines to ensure that the tabs and the courses will line up neatly. After the layout is finished, nailing on the shingles is a breeze.

**Striking the bond lines**

Hold your rule or tape so that its end overhangs the roof deck and rake trim by 1 in. Make marks at 30 in. and at 36 in. To make sure this layout won’t result in unsightly narrow tabs (2-1/2 in. or less) at the right end of the roof, measure horizontally across the roof from the bond-line marks. Each tab measures a foot; it’s easy to see if you’ll end up with an ugly 3/4-in. tab on the right side of the roof. If this happens, go back to the original marks and move them to the left. This leftward shift never exceeds 3 in.; if it did, you’d create undersized tabs on the left rake.

**Establishing the overhang**

Contrary to manufacturers’ recommendations, the author overhangs roof shingles 1 in. on both rakes and eaves. Longer overhangs accounts for possible discrepancies in the straightness of the trim.

**Striking the horizontal lines**

To mark the horizontal line for your starter course, hold your rule or tape so that it overhangs the drip edge by 1 in. Make a mark at 12 in. on both ends of the roof deck and strike a connecting line. The top of the starter-course shingles will be laid to this line. Then measure in 10-in. increments up the roof deck, starting from your starter-course line. These lines show where to lay the top edge of every other course. Intermediate courses are lined up using a gauged roofing hammer.
Shingling around dormers

When dormers interrupt the roof plane, run shingles past the dormer, above and below. Strike bond lines between the top and bottom sections, first along the outside edge of one course, then along the outside edge of the next course offset by 6 in. The next row to the right of the bond lines goes from the bottom of the roof to the peak, leaving an unroofed area to the right of the dormer, which can be filled now or later.
Reestablishing the starter course

When shingling around a dormer or other obstruction on the roof deck that interrupts the starter course, run shingles to a point past the obstruction, then strike a new set of bond lines using the end of a shingle as a reference point. Measure from the shingle over to the right-side rake and transcribe this measurement (X) to a point lower on the roof. Strike a line to connect the point and the shingle edge above. Then strike another line 6 in. to the left. Remember that the top shingle of the starter course always starts on the right-hand bond line.

Nail the first course above the obstruction high on the shingle, within 2 in. of the top, so that the shingle course below it can slip underneath.
If there's no starter course

On the far side of an intersecting roof or dormer, run top shingles to the right rake, then transcribe measurements and strike bond lines. Measure down by extending a folding rule so that the 12-in. mark is on the bottom of the first shingle in the top section. The shingle is 12 in. high, so the zero point of the ruler is even with the top of that shingle. Mark every 10 in. to the bottom of the roof. The bond returns to its starting point every 10 in., so every shingle that hits a 10-in. mark lines up with the tabs of first shingle in the top section.
Starting a hip roof

On a hip roof, because there's no rake board from which to measure, bond lines can be established by squaring off the starter course at any point using the 3-4-5 method.
The slant-rule trick. For vertical runs that are not equally divisible by five, hold a folding rule diagonally on the roof deck so that an increment of 5 in. is even with the top of the shingle above, and the bottom of the rule rests on the top of the starter course below. Make marks at each 5-in. increment. Do this at each side of the roof. Strike lines to connect the points.

Here's one roof configuration where you might use the slant-rule trick.
Efficient sheathing layout

**Bad break**
A narrow and flimsy 5-in. course is left at the top.

**The solution**
Bottom course is ripped to 3 ft., leaving a 17-in. course at the top.

Full-width course

Course ripped to 3 ft.

Top course minimum 12 in. wide

**Vertical layout**
Top-to-bottom layout should leave at least 12 in. of sheathing for the top course (above).

**Horizontal layout**
To minimize cutting and wasting sheathing, full or half sheets should fit on a rafter. The layout is taken from the extreme outside edge of the gable overhang.

Rafter layout begins here.
The easiest way to get sheathing onto the roof of a single-story house is to lean the sheets against the fascia on top of two sawhorses.

Because of the complex eave detail on this house, the crew opted to start the sheathing with the second course. Nails driven halfway into the rafters hold the sheathing on the line until it’s tacked in place.

The whole first course -- here, actually the second course -- is tacked in place. It has to be straight: Because additional courses are stacked on top, any deviations would be telegraphed all the way to the ridge.

Before nailing off the sheathing, a tape is hooked to the rafter on one end, and the rafter layout is marked along one edge. The rafters are then moved to the mark and nailed in place.

The valley angle is found by measuring in from the top and bottom of the nearest sheet. Once the angle is found, a template that can be used for the hips as well as the valleys is.
New framing for a skylight

First, properly sized rafters and ceiling joists are installed with a nonstructural ridge.

Doubled rafters flank skylight opening.

With the roof supported, trusses are then cut, and headers are installed.

Existing framing is shaded.