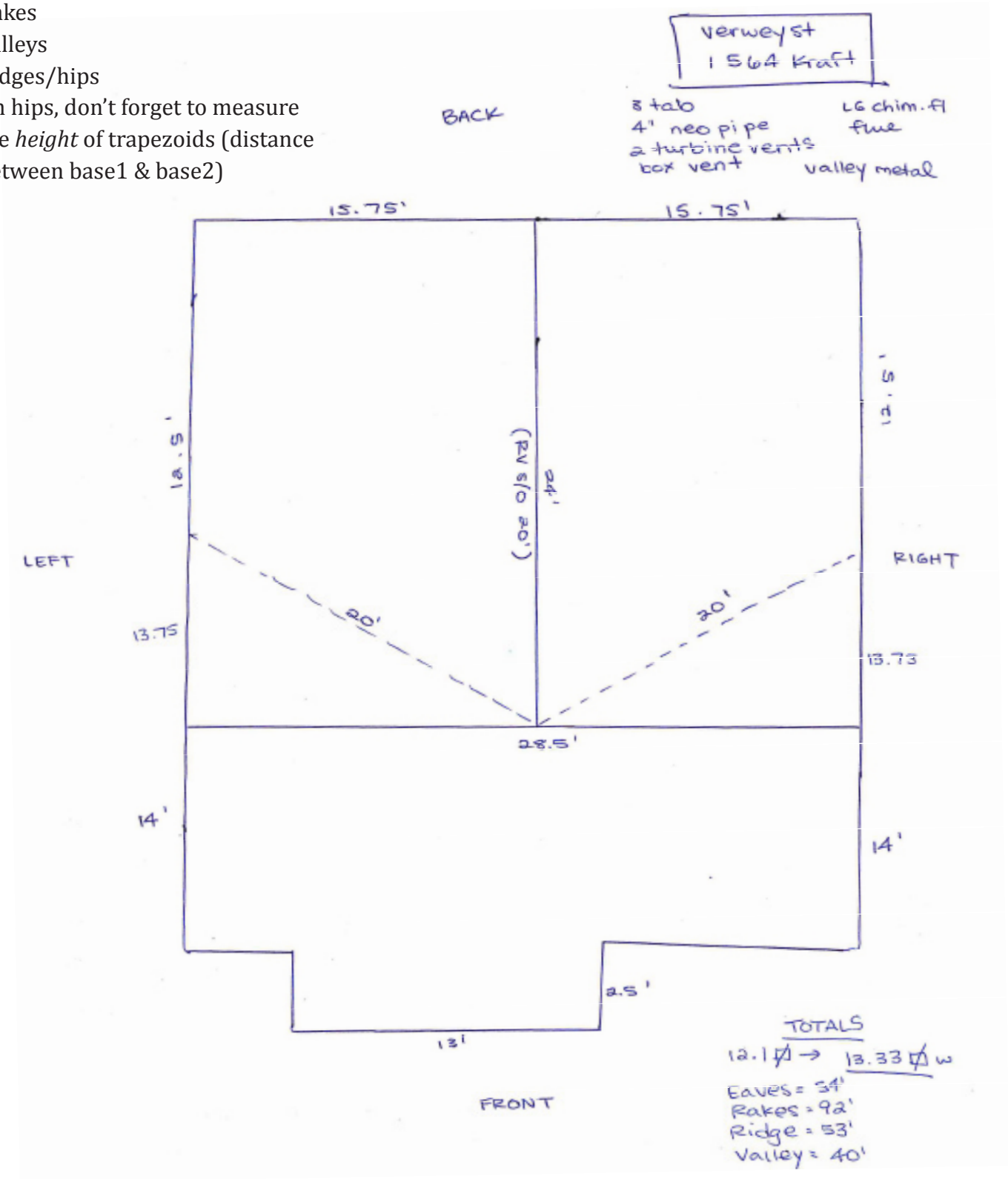
Measuring & Diagramming

General: *Write homeowner's last name and address in the upper right corner of every diagram, and orientation of the diagram (front, rear, right, left)*

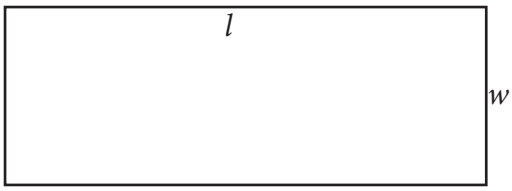
ROOF

- Eaves
- Rakes
- Valleys
- Ridges/hips
- On hips, don't forget to measure the *height* of trapezoids (distance between base1 & base2)



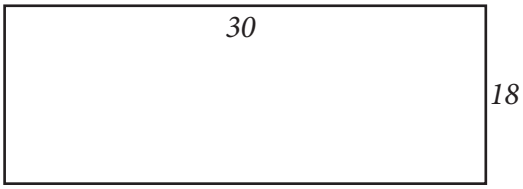
Measuring: ROOFS

Basic mathematical formulas to measure square feet by **each individual slope** on the roof.



length *x* width

(gable style slopes, flat roofs)

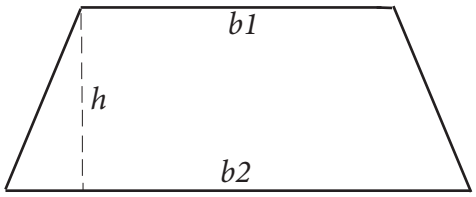


30 x 18 = 540 square feet

540/100 = 5.4 SQ

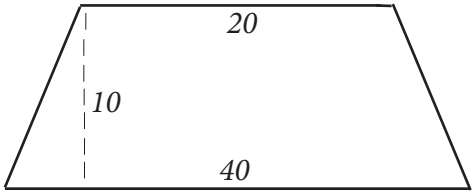
SQUARE/ RECTANGLE

TRAPEZOID



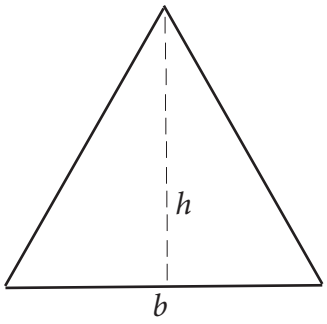
$$\frac{\textbf{(base 1 + base 2) } x \textbf{ height}}{\textbf{2}}$$

(hips)



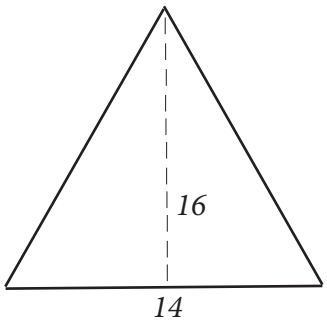
$$\frac{\textbf{(40 + 20) x 10}}{\textbf{2}} \textbf{ = 300 square feet}$$

300/100 = 3 SQ



$$\frac{\textbf{base } x \textbf{ height}}{2} \quad \textit{or} \quad \textbf{.5 } x \textbf{ base } x \textbf{ height}$$

(hips)



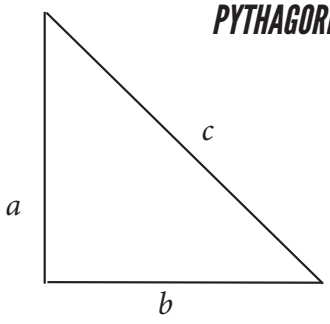
$$\frac{\textbf{14 } x \textbf{ 16}}{\textbf{2}} \textbf{ = 112 square feet}$$

112/100 = 1.12 SQ

TRIANGLE

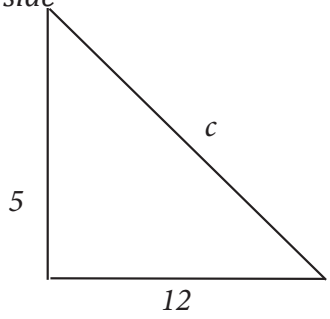
RIGHT TRIANGLE

PYTHAGOREAN THEOREM



$$\mathbf{a^2 + b^2 = c^2}$$

c = longest side

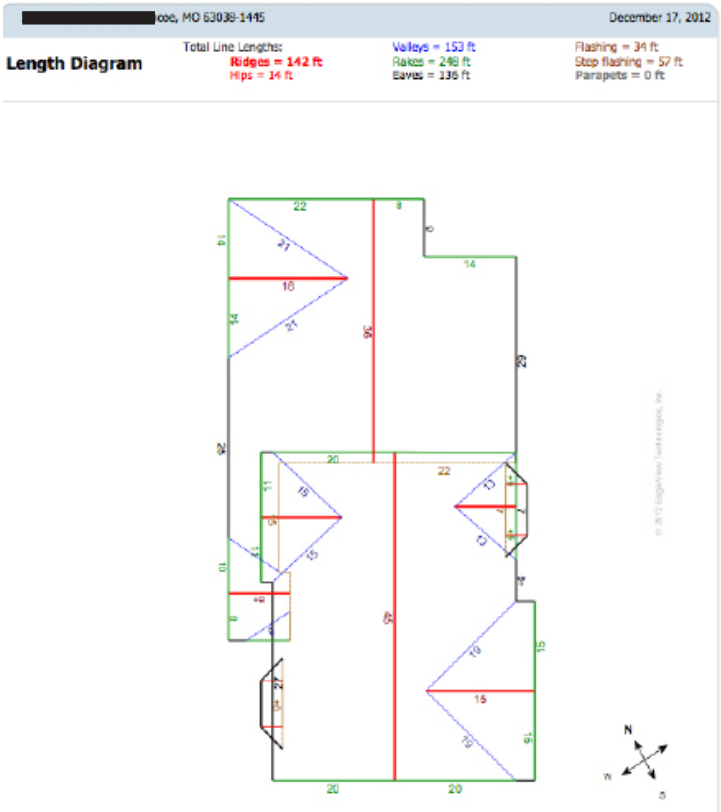


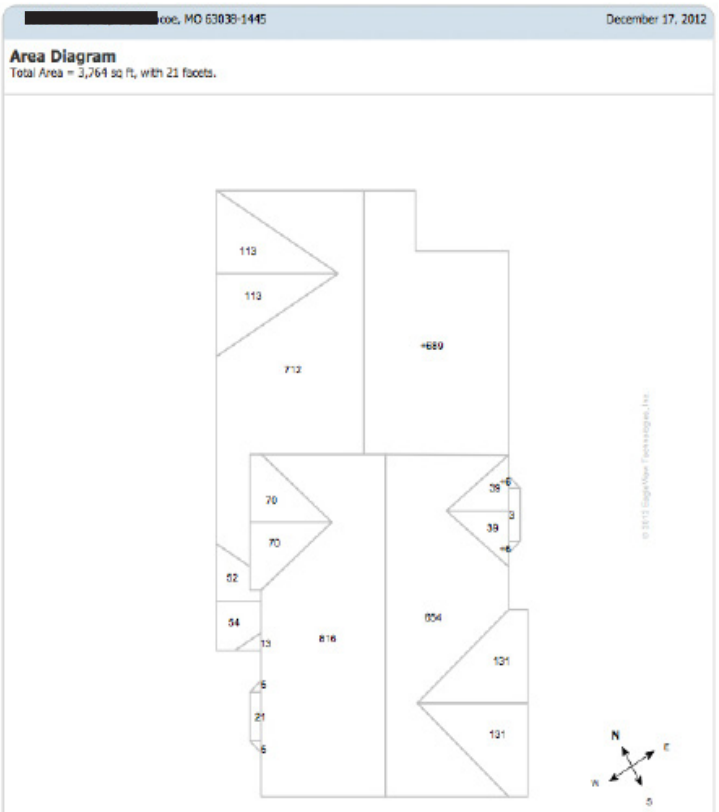
$$\mathbf{5^2 + 12^2 = c^2}$$

$$\sqrt{169} = c$$

c = 13

If it will take you less than 20 minutes to diagram and measure a roof, do it yourself. If you have a really difficult, too-steep, or cut-up roof, order an Eagleview or GeoEstimator report on the property. It will save you time and can be safer than climbing a complicated roof.



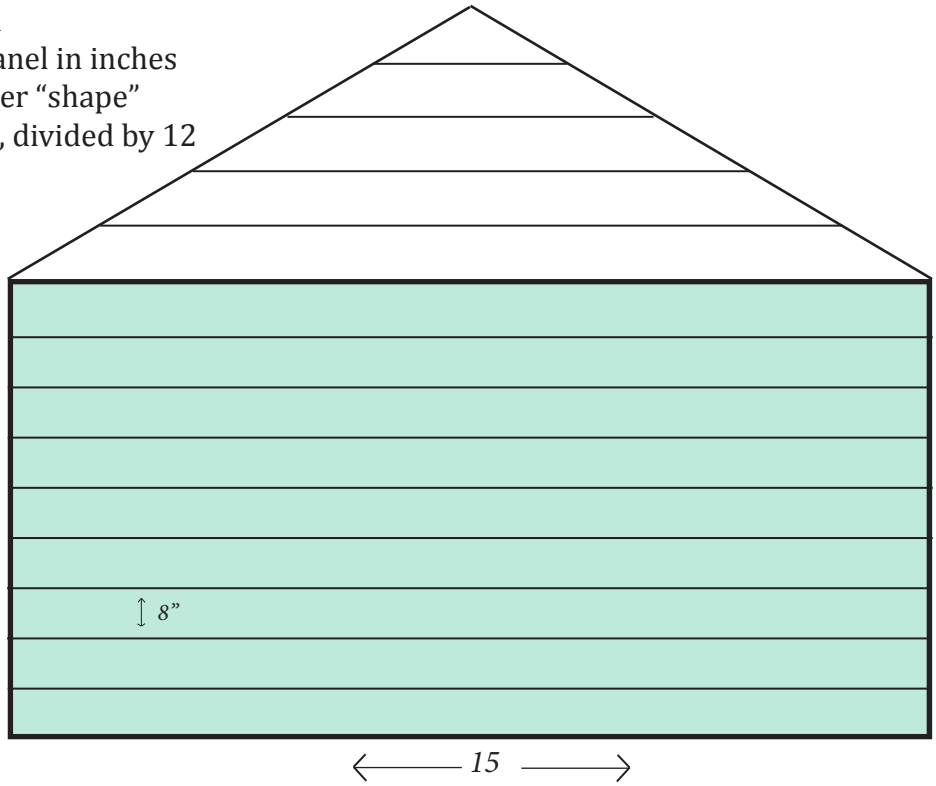


Measuring: SIDING

Siding is easy to measure because you only need a couple quick measurements and the rest is just counting. Calculate measurements in squares or square feet PER elevation. Simplify by dividing elevations up into simple shapes. Example below: a rectangle and a triangle.

Squares/rectangles

1) Measure the width of the elevation
2) Measure the height of the siding panel in inches
3) Count the number of panels high per "shape"
4)# of panels *x* panel height in inches, divided by 12

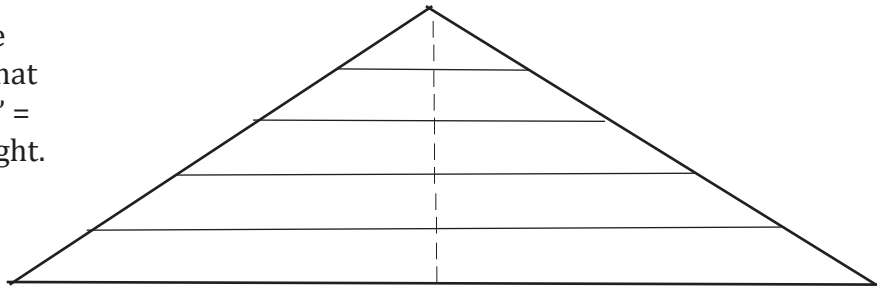


Example: if the panels of this siding are 8" tall, then count how many panels complete the height of the shape and multiply it times 8".
In this case, 9 panels x 8" = 72".
72" divided by 12" = 6 feet.
So the height of the rectangle is 6 feet.
6 x 15 = 90 sq ft for the rectangle

Gable ends/triangles

1) Measure the width of the base (hint: width of the square below it)
2) Count the number of panels to calculate height of the triangle/gable
3) Use *.5 x base x height* for the right triangles

Example: We know that the width of the base of the triangle is 15 LF. We count that there are 5 panels high at 8" each. 5 x 8" = 40" divided by 12" = 3.33 LF for the height.



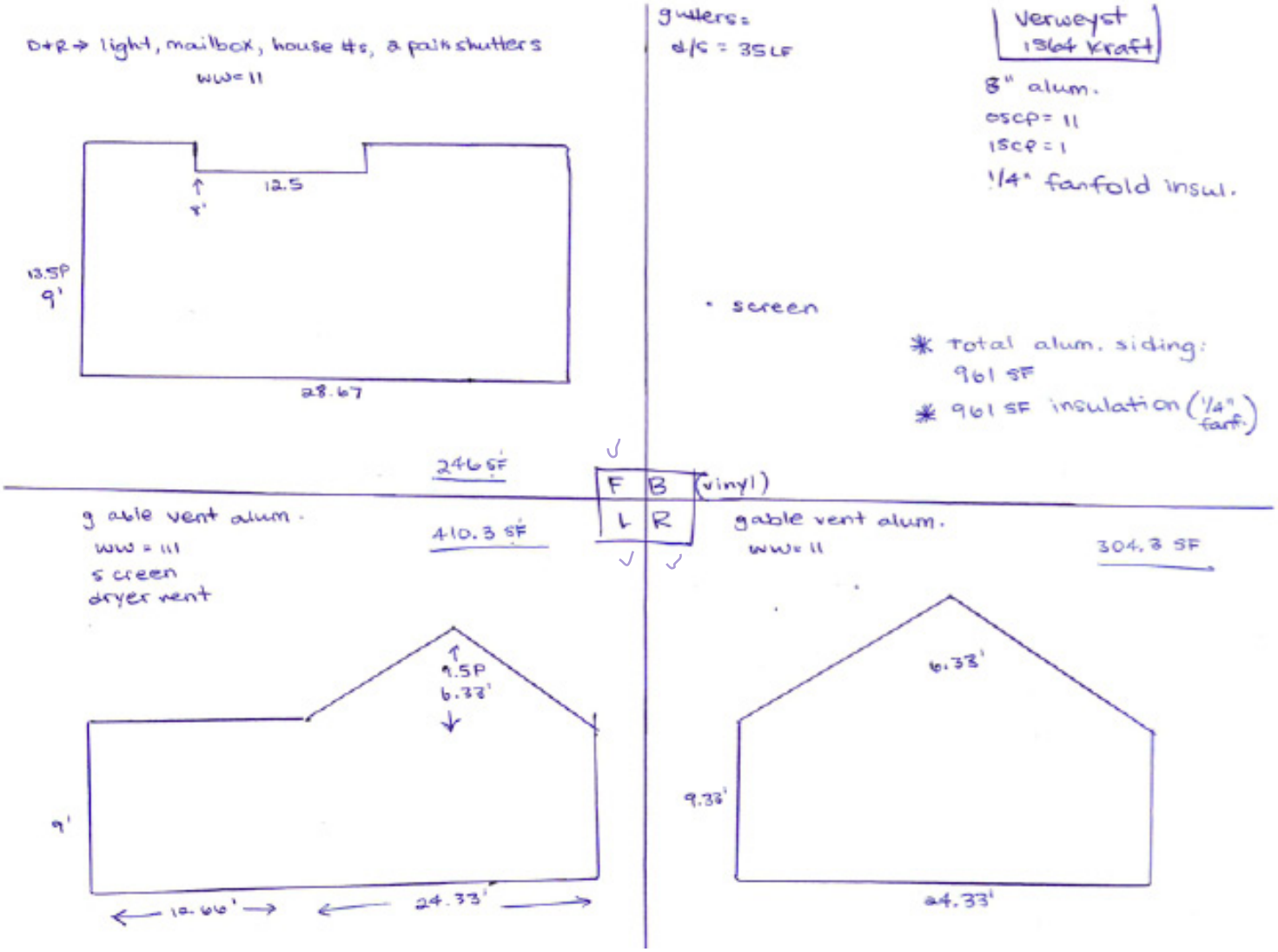
Base of 15LF and height of 3.33LF. So,

.5 x 15 x 3.33 = 25 sq ft

TOTAL ELEVATION SQUARE FOOTAGE = rectangle 90 sq ft + gable 25 sq ft = **115 sq feet**

SIDING

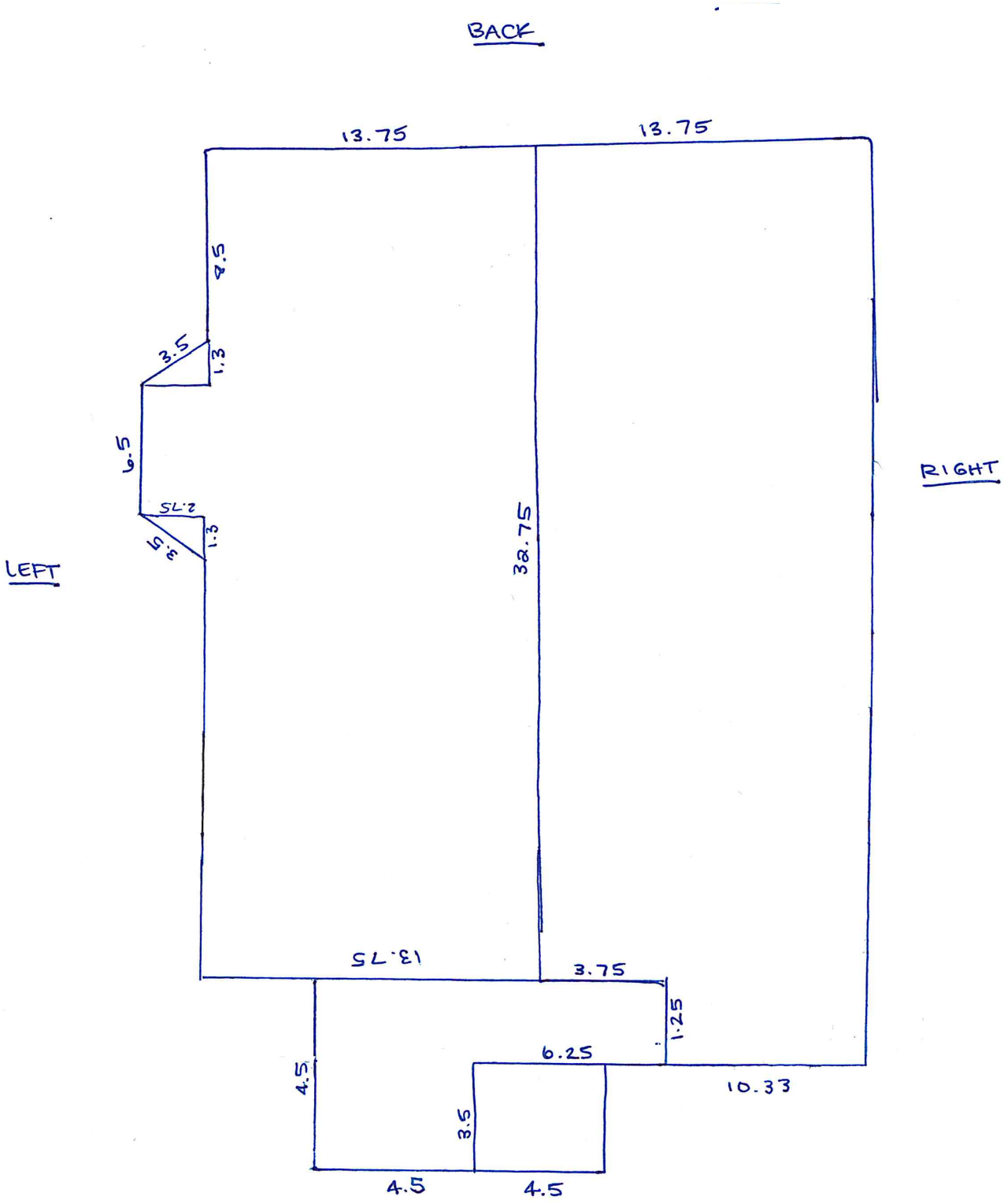
- Orientation of sides (front, rear, left, right)
- Put a checkmark on which sides are damaged
- Notate size of panels and what material



A

Estimating

Style of roof:



Actual squares:

Squares + waste:

Eaves LF:

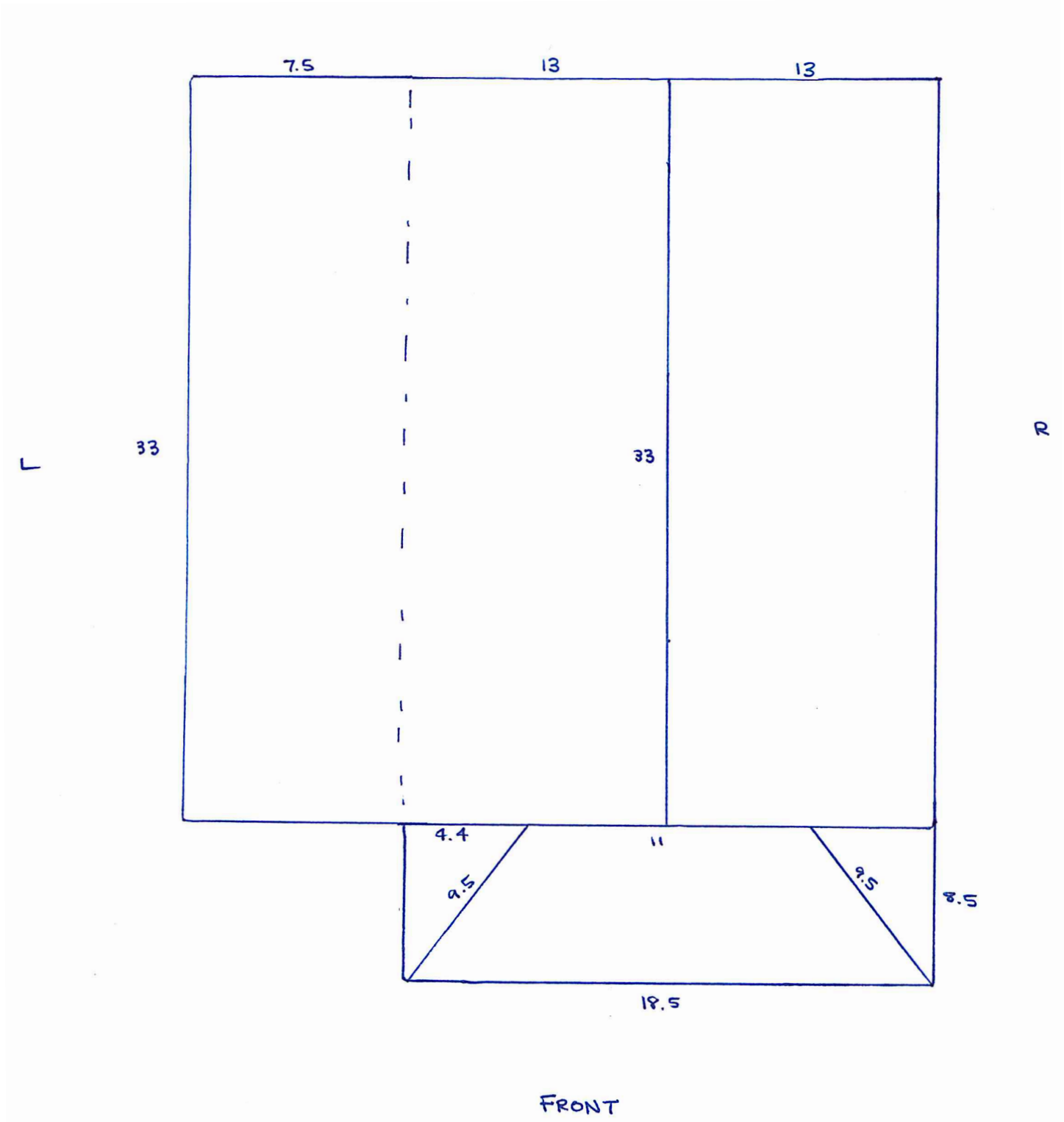
Rakes LF:

Ridge/hip LF:

Valley LF:

B

Style of roof:



Actual squares:

Squares + waste:

Eaves LF:

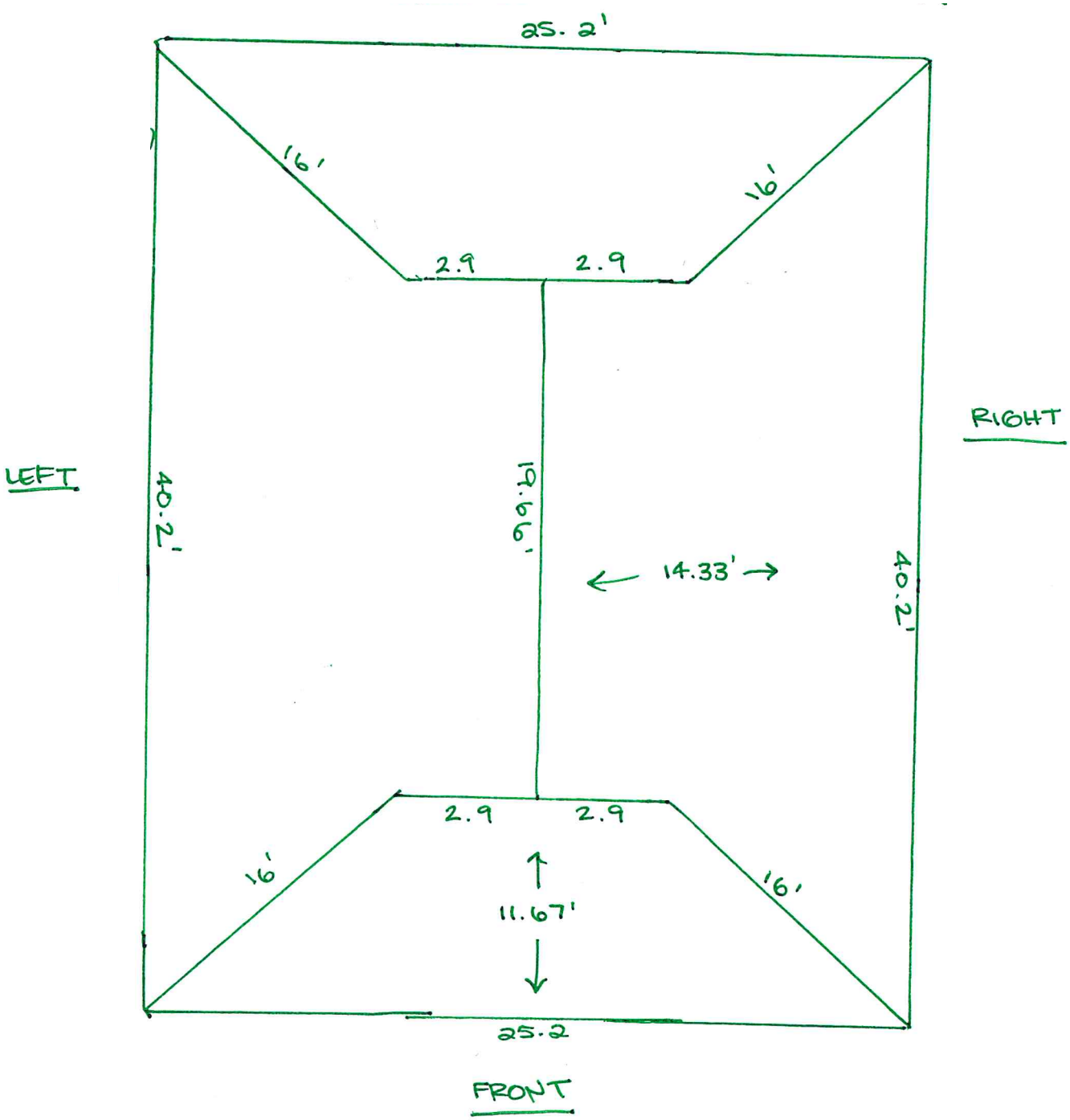
Rakes LF:

Ridge/hip LF:

Valley LF:

C

Style of roof:



Actual squares:

Squares + waste:

Eaves LF:

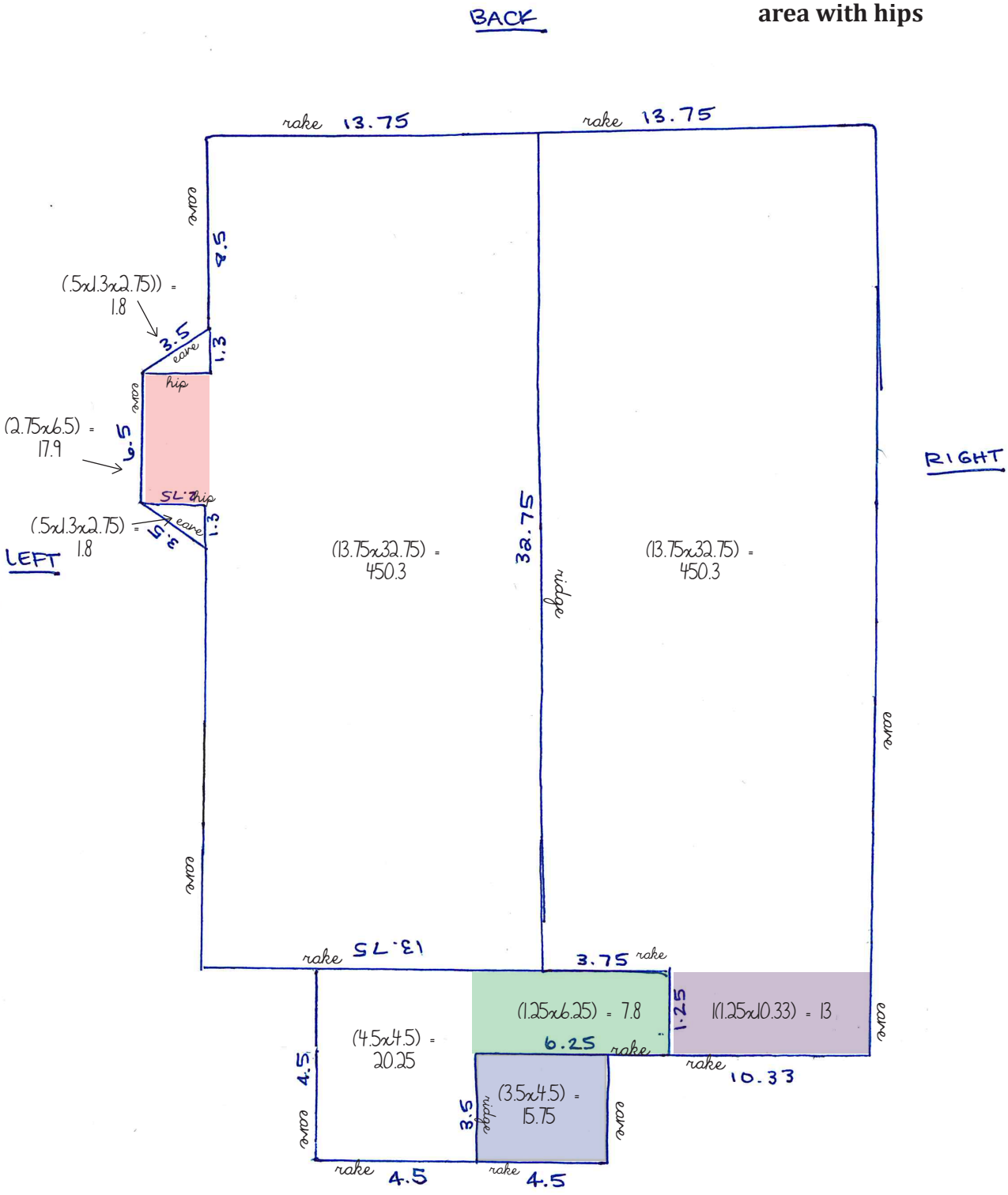
Rakes LF:

Ridge/hip LF:

Valley LF:

a

Style of roof: gable (apart from the small bay window area with hips



Actual squares: 9.79

Squares + waste: 11

Eaves LF: 80

Rakes LF: 71

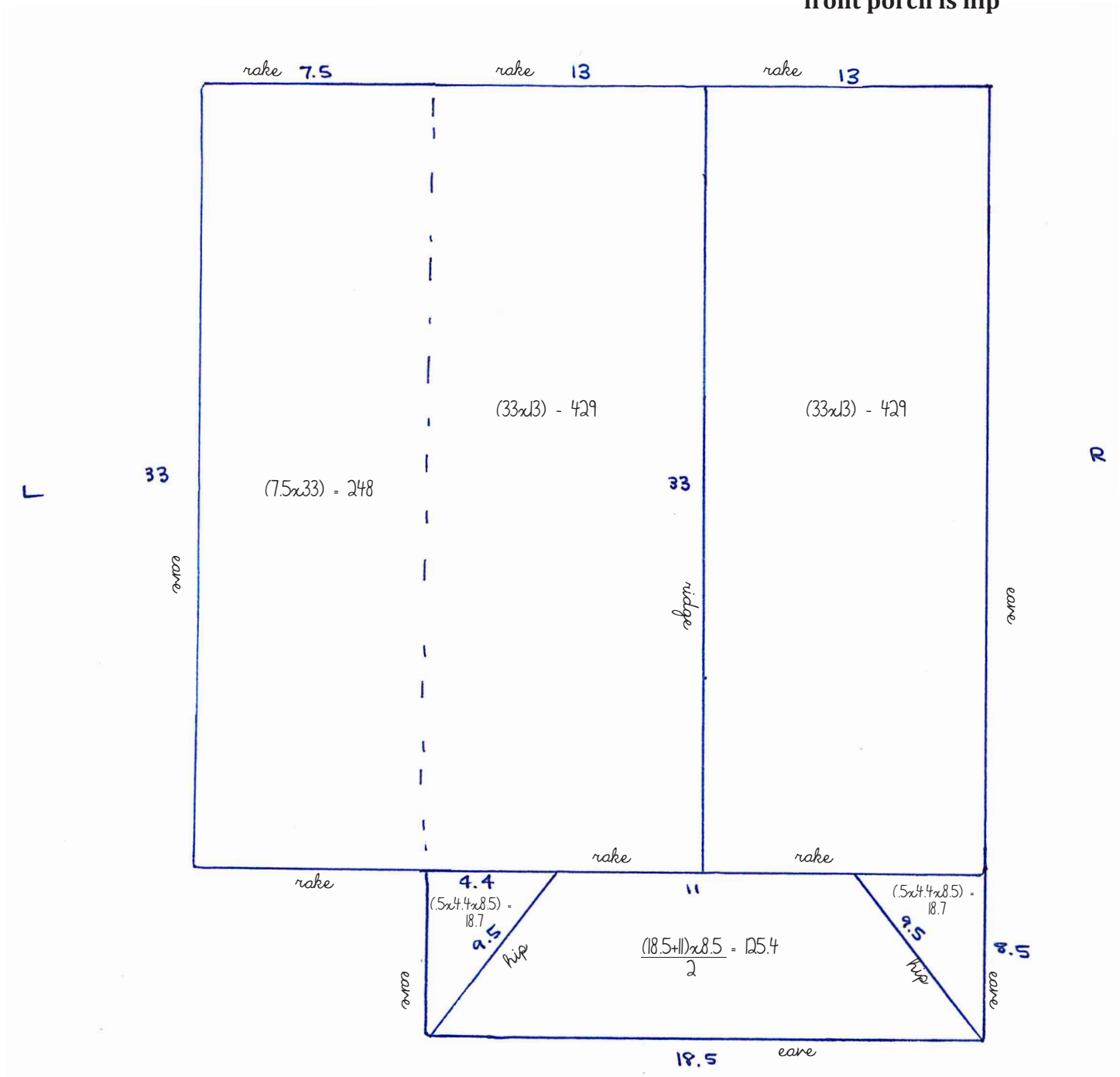
Ridge/hip LF: 43

Valley LF: 0

Tip: Divide areas into simpler shapes as shown above (3 highlighted areas) to determine area.

b

Style of roof: main is gable, front porch is hip



Actual squares: 12.69

Squares + waste: Gable portion = 11.06 x 10% waste = 12.2 SQ / Hip portion = 1.63 x 15% waste = 1.9 SQ ..... 12.2 + 1.9 = **14.1 SQ total**

Eaves LF: 102

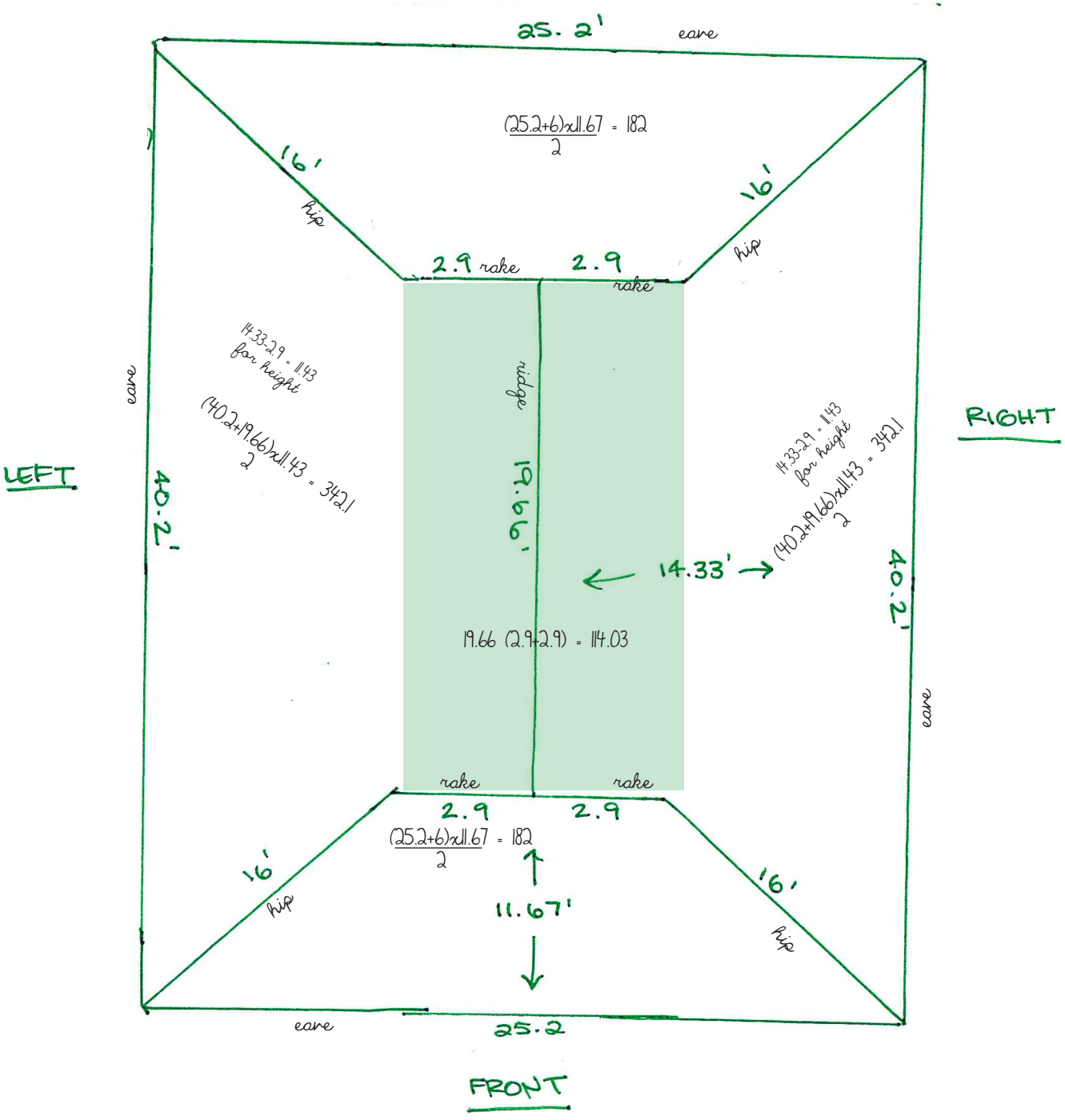
Rakes LF: 67

Ridge/hip LF: 52

Valley LF: 33

c

Style of roof: Hip



Actual squares: 11.62

Squares + waste: 13.67 (using 15% waste for hip roof. 11.62 x 1.15)

Eaves LF: 131

Rakes LF: 12

Ridge/hip LF: 84

Valley LF: 0