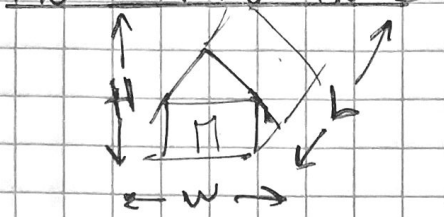
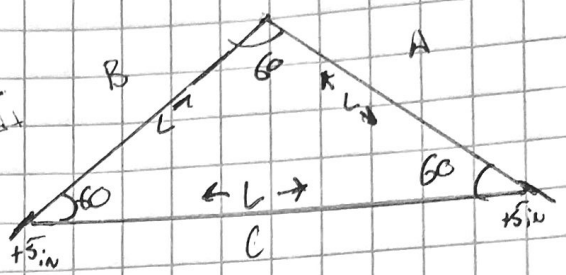
BRAD JONES
CSC110 - Section 6
4/13/2017

HW2

Home renovations



L =
W =
H =



$$\frac{L}{\sin A} = \frac{L}{\sin B} = \frac{L}{\sin C}$$

Siding:

A = [redacted] $2LH + 2WH$

sidingArea = A * (20/100) → A {A minus 20%}

oneProfile = (9x32) *INCHES, need to convert!

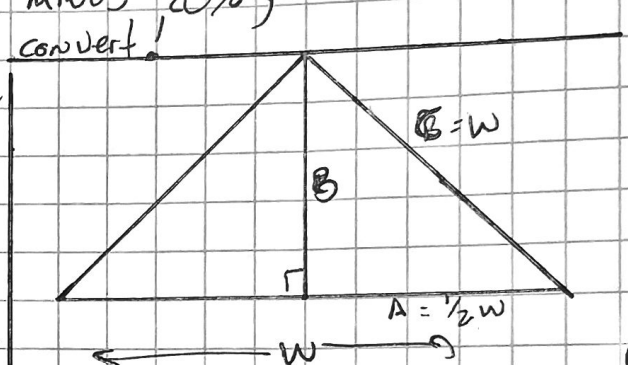
totalProfile = sidingArea / oneProfile

nails = (1/2 * totalProfile)

strips = (2/(3 * totalProfile))

$9 \times 32 = 288$ sqIN.

$288/12 = 24$ sqft.



Roof:

A = ((W+5 * roofHeight) / 2)

roofTri = [redacted] * A

roofBox = [redacted] * (W+5) * (L)

roofArea = 2 roofTri * roofBox

bundle = 33.3 ft²

roofNails = (3 / bundle)

Profile bundle Width:

[redacted]

$(\frac{1}{2}W)^2 + (B)^2 = (W)^2$

$(B)^2 = (W)^2 - (\frac{1}{2}W)^2$

$B = \text{sqrt}(W - \frac{1}{2}W)$

B = roof_Height

if 1600 of wall = 80 profiles

$1600/x = 80$

$x = 80/1600$

$x = 1/20$

Length = 50
Width = 30
Height = 10

profile = 128.75
s nails = 15.96
s strips 24.75

bundle = 24.75
nail = 2.98

Area of the house walls = 2WH + 2LH = 1600

Subtract 20% for windows + Doors 1600 x 0.8 = 1280

- total siding Area = 1280 sq ft.

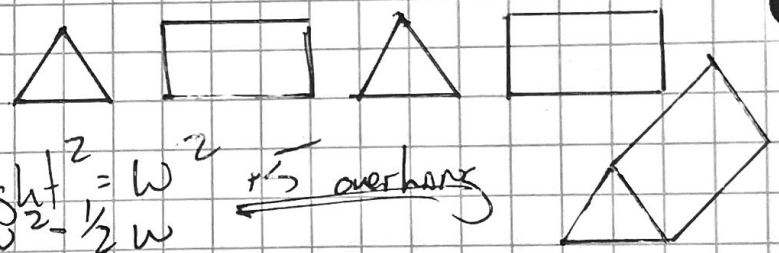
if 1600 sq ft = 80 profiles // 1 profile = 80/1600 = 1/20

- 1280 sq ft x 1/20 = 64 total profiles

if 1 siding nail for 2 profiles // 64/2 = 32 siding nails

if 2 siding strips for 3 profiles // 2/ 64/3 = 21.33 * 2 = 42

Area of the roof:



Area of triangle = $\frac{1}{2}w^2 \times height^2 = w^2$ +5 overhang

$height^2 = w^2 - \frac{1}{2}w$

height = 30 - 15 = 45

Area of box width + 5 length + 5

30 + 5 x 30 + 5 =

Area of roof = 2 boxes + 2 triangles