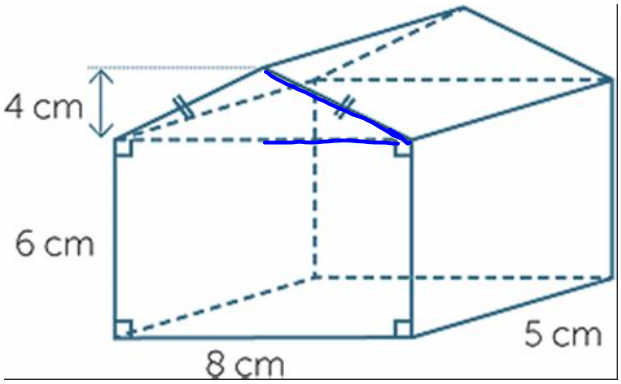
Find the surface area of this model house.
Include the bottom.



Box

$A_{front/back} = bh \times 2$
$= (8)(6) \times 2$
$= 96\text{cm}^2$

$A_{sides} = bh \times 2$
$= (5)(6) \times 2$
$= 60\text{cm}^2$

$A_{bottom} = lw$
$= (8)(5)$
$= 40\text{cm}^2$

196

$A_{triangle} = \frac{bh}{2} \times 2$
$= \frac{(8)(4)}{2} \times 2$
$= 32\text{cm}^2$

$c^2 = a^2 + b^2$
$x^2 = 4^2 + 4^2$
$= 16 + 16$
$= 32$
$x = \sqrt{32}$
$= 5.7\text{cm}$

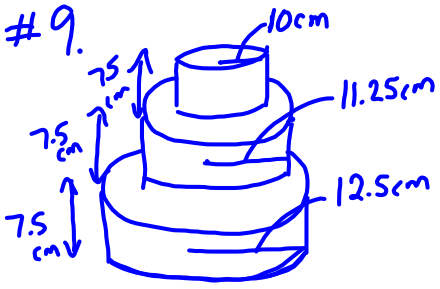
$A_{roof} = bh \times 2$
$= 5(5.7) \times 2$
$= 57\text{cm}^2$

$A_{total} = 196 + 32 + 57$
$= 285\text{cm}^2$

Problems with the homework?

Page 41 8 & 9

#9.



$A_{top} = 2\pi r^2 + 2\pi rh$
$= 2\pi(10)^2 + 2\pi(10)(7.5)$
$= 200\pi + 150\pi$
$= 350\pi$

$A_{middle} = 2\pi r^2 + 2\pi rh$
$= 2\pi(11.25)^2 + 2\pi(11.25)(7.5)$
$= 253.125\pi + 168.75\pi$
$= 421.875\pi$

$A_{bottom} = 2\pi r^2 + 2\pi rh$
$= 2\pi(12.5)^2 + 2\pi(12.5)(7.5)$
$= 312.5\pi + 187.5\pi$
$= 500\pi$

$\text{overlap} = 200\pi + 253.125\pi + 156.25\pi$
$= 609.375\pi$

$A_{total} = 350\pi + 421.875\pi + 500\pi - 609.375\pi$
$= 662.5\pi$
$= 2081.3\text{cm}^2$

CONCEPT REINFORCEMENT:

MMS9

PAGE 40: #3, 4 and 5
PAGE 41: #6 (count bottom), 8 (no bottom but have to paint overhang) and 9 (no bottoms)
PAGE 42: #10, 11 (no bottom) and 13
PAGE 43: #14 (no bottom) and 15 (the cylinder is solid, not hollow)

Homework: Page 42 11 & 13

Find the surface area.