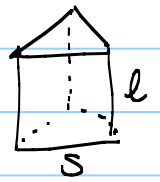
12.1 Q+A

Note Title 5/3/2016

1 a 55° b. 282 c. 810

2 a 150 b 126

3 a 550 b 120 c. 790

4. 

2 eq Δs + 3 ▭

$2\left[\frac{s^2\sqrt{3}}{4}\right] + 3\ s\cdot l$

a. $s=6, l=5$

$18\sqrt{3}+90$ ×2

b. $s=12\ \ l=10$

i. Mult $4(18\sqrt{3}+90)$

$72\sqrt{3}+360$

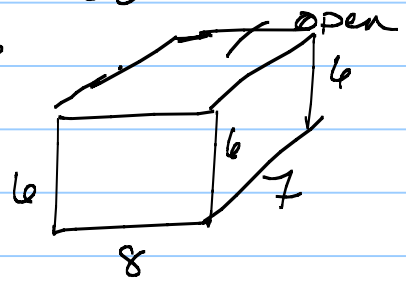
ii $2\cdot\frac{12^2\sqrt{3}}{4} + 3\cdot12\cdot10$

$72\sqrt{3}+360$

$\left(\frac{\text{side}}{\text{side}}\right)^2 = \frac{\text{Area}}{\text{area}}$

$\left(\frac{1}{2}\right)^2 = \frac{1}{4}$

5 a 150 b. 294

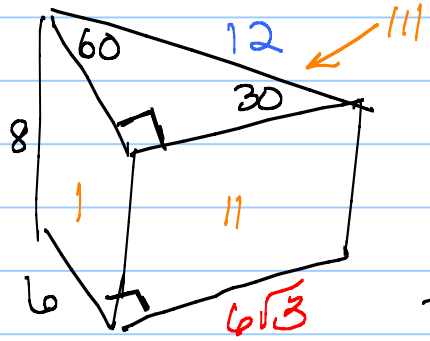
6 a 

BOTTOM + (left=right) + (front+back)

$7(8) + 2(6\cdot7) + 2(6\cdot8)$

$56 + 84 + 96$

236

66. 

30	60	90
x	x√3	2x
6	6√3	12

TA = BOTTOM + 1 + 11 + 111

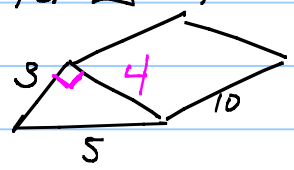
$= \frac{1}{2}6\cdot6\sqrt{3} + 6\cdot8 + 8\cdot6\sqrt{3} + 8\cdot12$

$18\sqrt{3} + 48 + 48\sqrt{3} + 96$

$66\sqrt{3} + 144$

7a LA = 480 TA = 552

b. Rt △ Prism



$2\triangle + 3\square + 4\square + 5\square$ (10, 10, 10)

$2\cdot\frac{1}{2}b\cdot h + 30 + 40 + 50$

$2\cdot\frac{1}{2}\cdot 3\cdot 4 +$

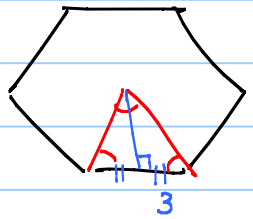
$12 + 120$

LA = 120

TSA = 132

c. LA = 2500 TSA = 2620

d.



Reg hex, s = 6

$A = \frac{1}{2}ap$

$\frac{1}{2}\,3\sqrt{3}\,(6\cdot 6)$

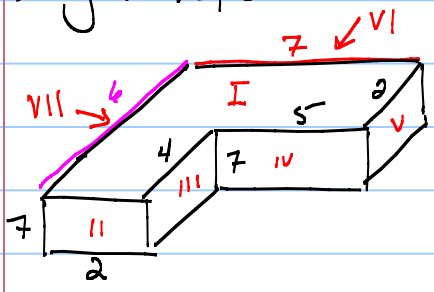
$54\sqrt{3} = A_{HEX}$

$2\,\text{hex}A + 6(6\square)$ (10)

$2(54\sqrt{3}) + 6\cdot 60$

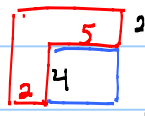
$108\sqrt{3} + 360$

8.



top + bottom $2(I) + II + III + IV + V + VI + VII$

$+ 7.2 + 7.4 + 7.5 + 2.7 + 7.7 + 6.7$



7

42 − 20

$2\cdot 22$

$44 + 14 + 28 + 35 + 14 + 49 + 42$

86 56

226

12.2

Prisms

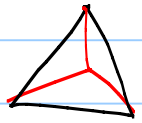
top ≅ bottom

Lat faces ⇒ rectangles (not regular)

3D

named after bases

Pyramids



1 base

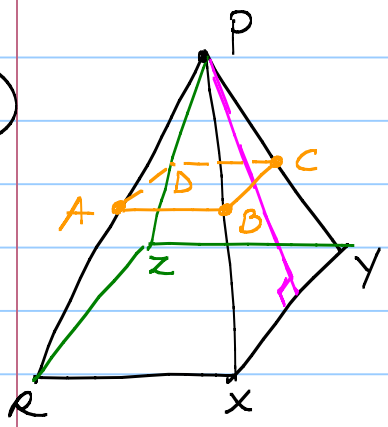
lat faces ⇒ triangles (not reg.)

3D

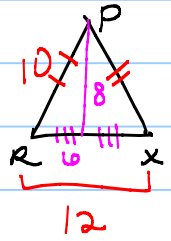
named after base

12.2: 1-5

(5)



a LA_{PRXYZ} = No base + PZR + PZY + PYX + PXR



slant height

isos Δ ⇒ alt = med

alt ⇒ ⊥ & ≅

$A_{PZR} = \frac{1}{2} b \cdot h$

$\frac{1}{2}\ 12 \cdot 8$

48 · 4 ≅ faces = 192

G: ABCD mdpts

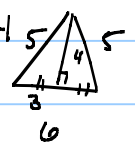
sq base & RX = 12

PR = 10

b. $LA_{ABCDP} = \frac{\text{side}}{\text{side}} = \frac{1}{2} \Rightarrow \frac{\text{area}}{\text{area}} = \frac{1}{4}$

↳ 192/4 = 48

or old fashioned way



$4\left(\frac{1}{2} 6 \cdot 4\right) = 48$

c. $A_{ABCD} = 6^2 = 36$ (midline)

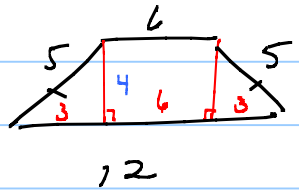
d. A_{RXYZ} → i Recognize sides were doubled (1:2)
Then areas are x4 (1:4)

$36 \cdot 4 = 144$

ii or $side^2 = 12^2 = 144$

e. 1:4

f. A_{ABXR}



$A = M \cdot h$

$= 9 \cdot 4 = 36$