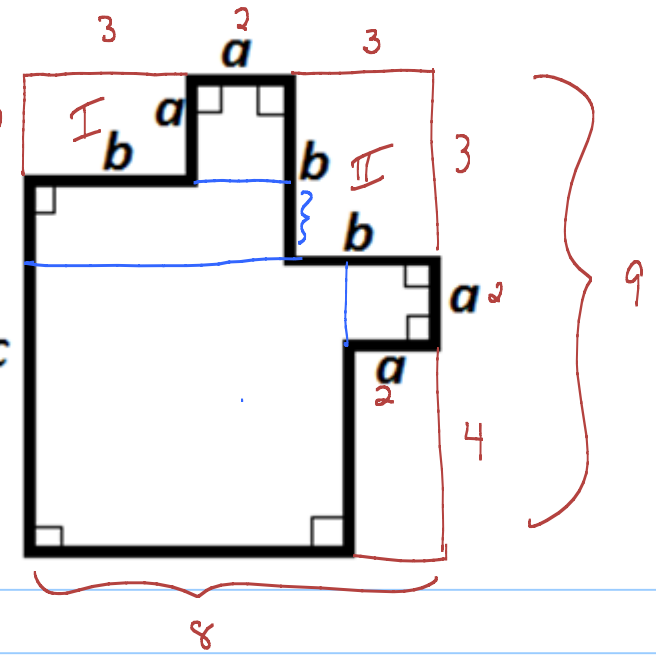
Note Title 2/15/2016

Let $a = 2$, $b = 3$, and $c = 7$. Then calculate the area of the enclosed region.



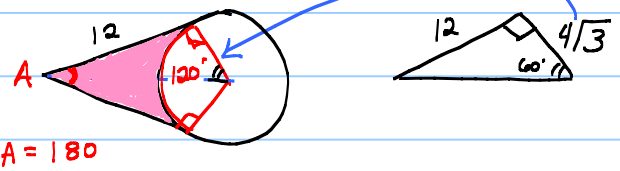
4
5
4
36
49

72
− 6
− 9
− 8

72
−23
49

11.6 ANY ?'s

18a



∠A = 180
−120
60

30	60	90
x	x√3	2x
4√3	12	8√3

If $x\sqrt{3} = 12$

$x = \frac{12\sqrt{3}}{3} = 4\sqrt{3}$

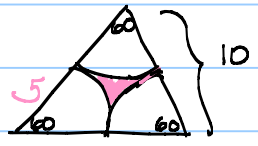
2 rt ∠s − sector

$\left(2\cdot\frac{1}{2}\right) 12 \cdot 4\sqrt{3} - \frac{120}{360}(r)^2\pi$

$48\sqrt{3} - \frac{1}{3} 4 \cdot 4 \sqrt{3}\sqrt{3}\pi$

$48\sqrt{3} - 16\pi$

14 d.

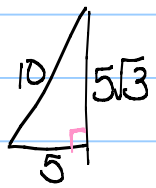


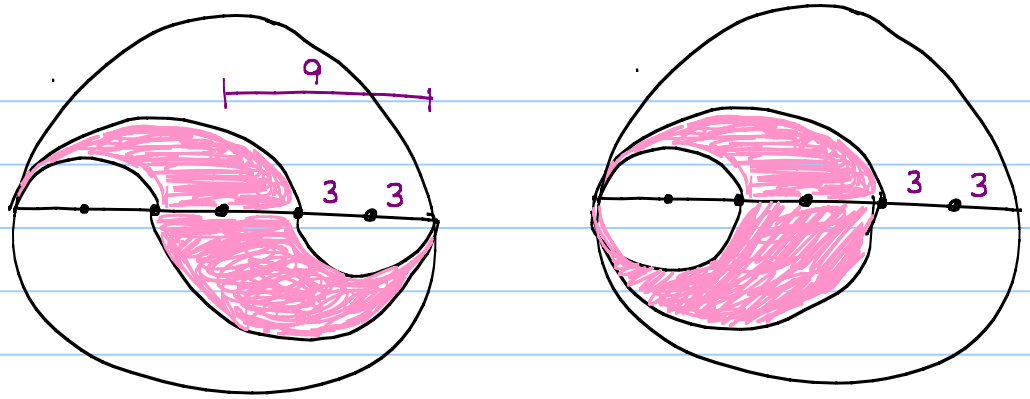
△ − 3 sectors

$\frac{1}{2} 10 \cdot 5\sqrt{3} - 3\left(\frac{60}{360}\right)\pi r^2$

$25\sqrt{3} - \frac{1}{2} 5^2 \pi$

$25\sqrt{3} - \frac{25}{2}\pi$



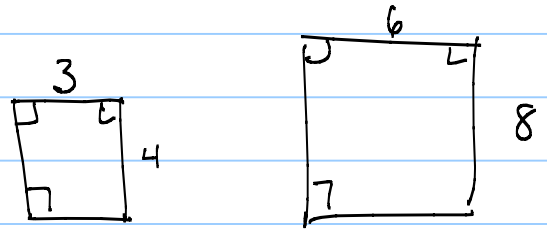


$$A_{\odot} - A_{\odot} = A_{SHADE}$$

$$R^2\pi - r^2\pi$$

$$6^2\pi - 3^2\pi = \pi(36-9) = \boxed{27\pi}$$

11.7: Ratio of Areas



Sides $1:2$

Areas $(1:2)^2 \Rightarrow 1:4$

11.8:

Class demo of 11.8: 1a, 3c, 9 Hero & Brahmagupta

Homework 11.7: 3-15.

11.8.1A: $A_{\Delta} = \sqrt{s(s-a)(s-b)(s-c)}$, $s = \frac{a+b+c}{2}$

$a = 3$

$b = 4$

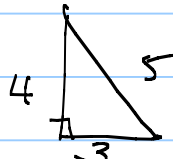
$c = 5$

$s = 12/2 = 6$

$\sqrt{6(6-3)(6-4)(6-5)}$

$\sqrt{6(3)(2)(1)}$

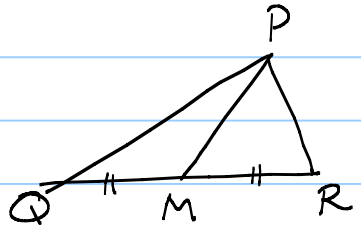
$\sqrt{36} = 6$



$\frac{1}{2}b \cdot h = \frac{1}{2}3 \cdot 4 = 6$

11.7: 3-15

3. $\overline{PM}$ med



Thm 11.10 p. 546

a) $A_{\triangle PQM} : A_{\triangle PRM} \Rightarrow 1:1$

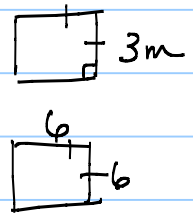
b) $A_{\triangle PQM} : A_{\triangle PQR} \Rightarrow 1:2$ c) $QR:MR \rightarrow 2:1$

4. $\left(\frac{4}{9}\right)^2 = \frac{16}{81}$

1dim → 2 → 2dim

5. $\frac{A_1}{A_2} = \frac{9}{16} \rightarrow \frac{alt}{alt} = \frac{3}{4}$

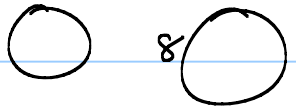
2dim → SQ RT. → 1dim

6. 

$A_{old} = 9$

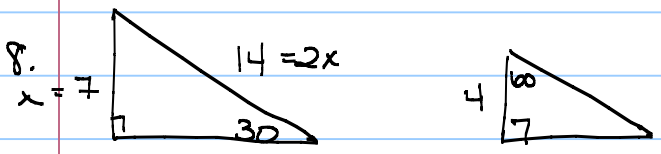
$A_{NEW} = 36$

not twice, it's 4 times

7. 

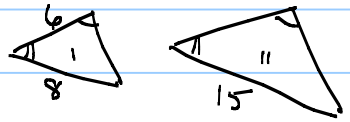
ratio of sides 1:4

areas 1:16

8. 

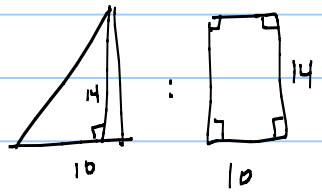
ratio of sides 7:4 ∴ rat areas = 49:16

9. Find rat area I:II

a. 

rat sds: 8:15

areas → 64:225

b. 

$\frac{A_\triangle}{A_\square} : \frac{\frac{1}{2}\,10(14)}{10(14)} = \boxed{1:2}$

15: ratio of As of 2 Os radii 4 & 9