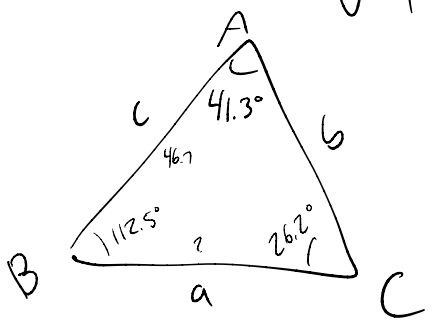
U4L1

Will Dunning

1.

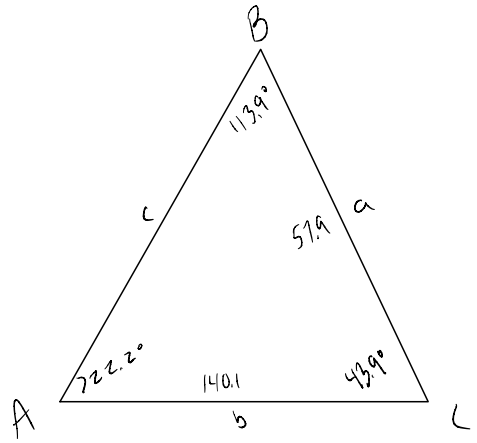


$$\frac{a}{\sin 41.3} = \frac{46.7}{\sin 26.2}$$

$a = 69.8$

$k = \frac{1}{2}(46.7)(69.8)\sin 112.5 \quad k = 1506 \text{ unit}^2$

2.



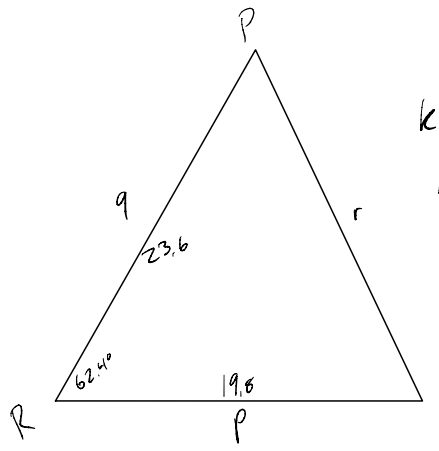
$$\frac{57.9}{\sin 22.2} = \frac{b}{\sin 113.9}$$

$b = 140.1$

$k = \frac{1}{2}(57.9)(140.1)\sin 43.9$

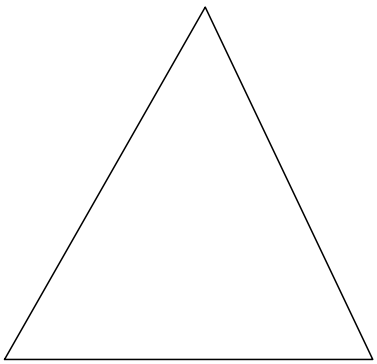
$k = 2812.4 \text{ units}^2$

3.

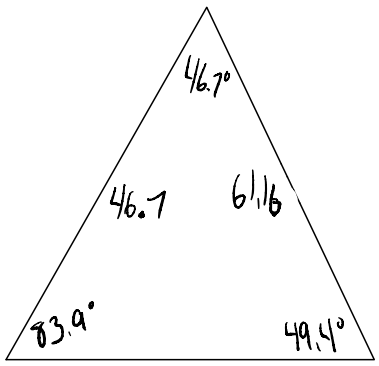


$k = \frac{1}{2}(19.8)(23.6)\sin(62.4)$

$k = 207.1 \text{ units}^2$



4. $A = \frac{1}{2}ab\sin C$



$\frac{46.7}{\sin 49.4} = \frac{x}{\sin 83.9}$

$A = \frac{1}{2}(61.16)(46.7)\sin(46.7)$

$A = 1039.3$

6. $k = \sqrt{67.5(67.5-40)(67.5-45)(67.5-50)}$

$\frac{40+45+50}{2} = 67.5$

$k = \sqrt{736898...}$

$k = 854.9 \text{ units}^2$

$\downarrow$

855

5. $\sqrt{s(s-a)(s-b)(s-c)}$

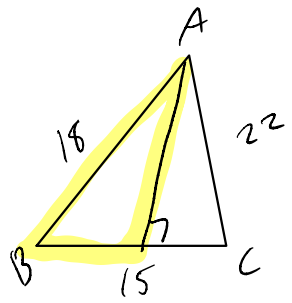
$\sqrt{34(34-31)(34-23)(34-14)}$

149.6 units^2

7. $\sqrt{36(36-18)(36-24)(36-30)}$

216 units^2

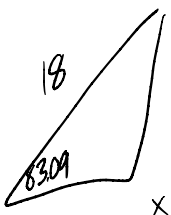
8.



$22^2 = 15^2 + 18^2 - 2(15)(18)\cos B$

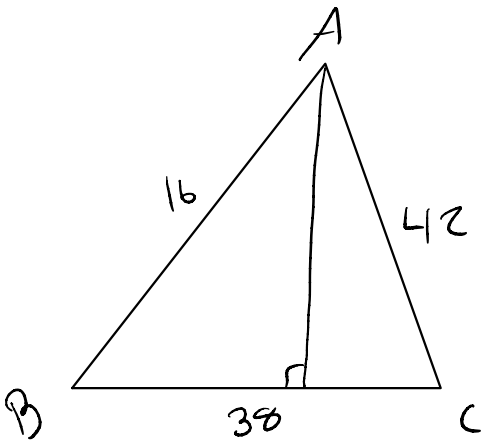
$-65 = -2(15)(18)\cos B$

$83.09 = B$



$\sin 83.09 = \frac{x}{18}$

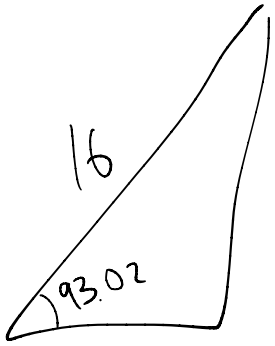
$x = 17.87$



$42^2 = 38^2 + 16^2 - 2(38)(16)\cos B$

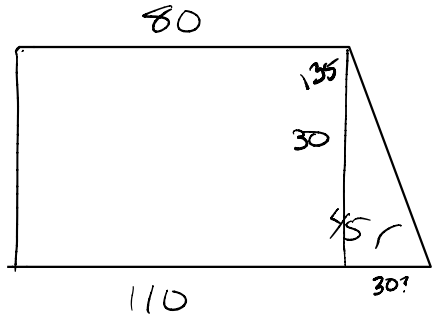
$64 = -2(38)(16)\cos B$

$B = 93.02$



$\sin 93.02 = \frac{x}{16}$

16 units



110-80=30

$\frac{1}{2}h(b_1+b_2)$

$\frac{1}{2}30(110+80)$

2850