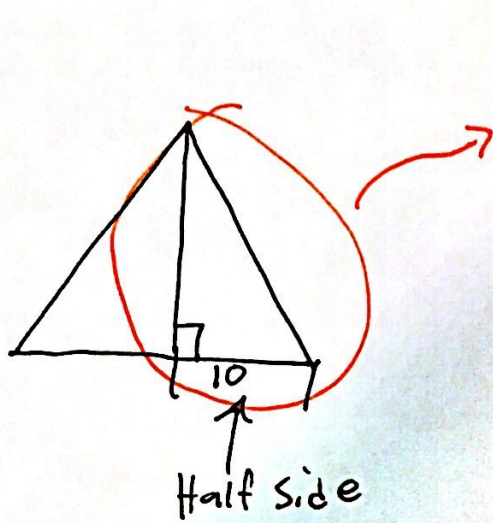
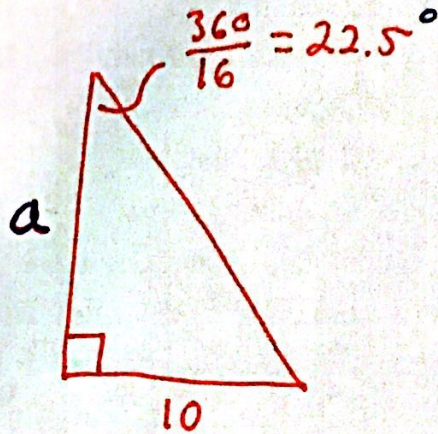


10-5 #3 Home work

Find the area of the regular octagon with side length 20 cm.



$P = 160 \text{ cm}$



$$\tan 22.5^\circ = \frac{10}{a}$$

$$\frac{a \tan 22.5^\circ = 10}{\tan 22.5^\circ \quad \tan 22.5^\circ}$$

$$a = \frac{10}{\tan 22.5^\circ}$$

Thus  $A = \frac{1}{2} a P$

$$= \frac{1}{2} \left( \frac{10}{\tan 22.5} \right) (160)$$

$$= 80 \left( \frac{10}{\tan 22.5} \right) \approx 1931.37$$

Round to whole #  
 $1931 \text{ cm}^2$