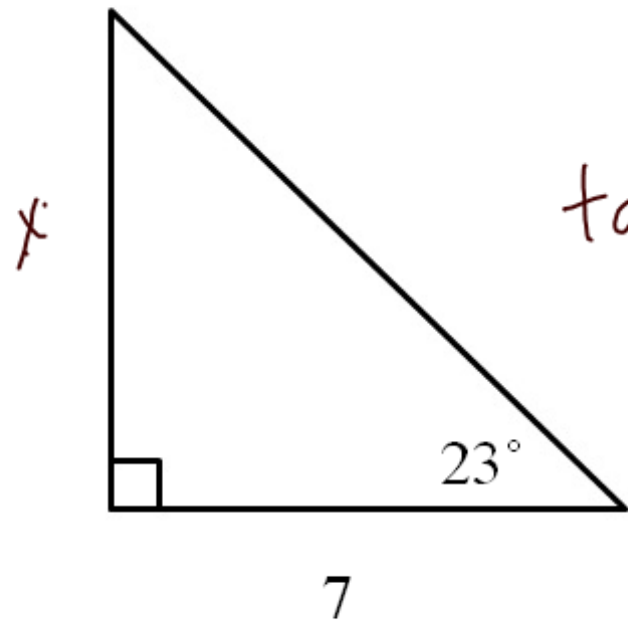


9.2 Area of a Triangle



How can we find the area of this triangle?

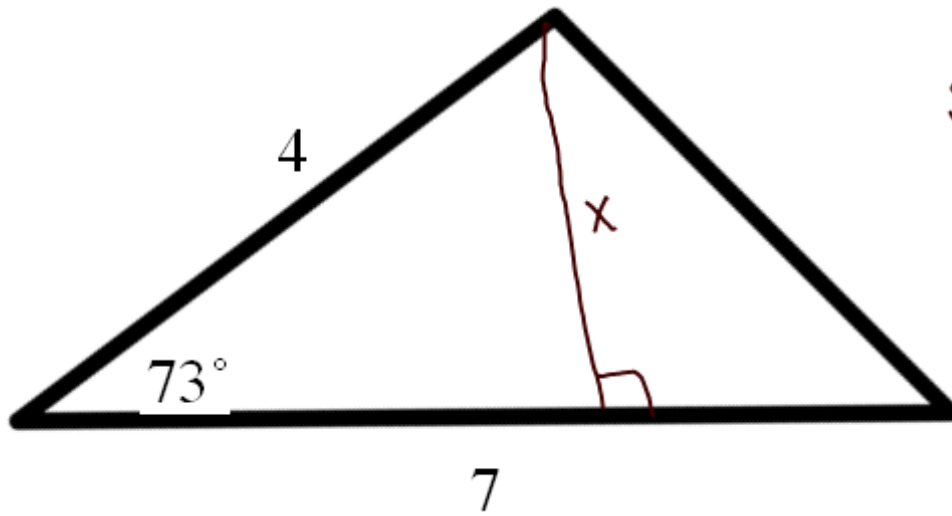
$$\tan 23^\circ = \frac{x}{7}$$

$$x = 2.97$$

$$A = \frac{1}{2} (7)(2.97)$$

$$A = 10.4$$

How can we find the area of this triangle?

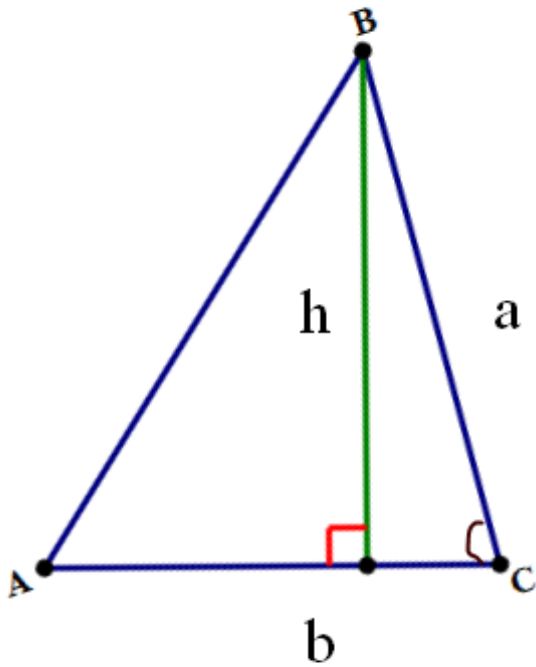


$$\sin 73 = \frac{x}{4}$$

$$x = 4 \sin 73$$

$$A = \frac{1}{2} (7) (4 \sin 73)$$

$$A = 13.4$$



How can we find the area of this triangle?

given a, b and $\angle C$

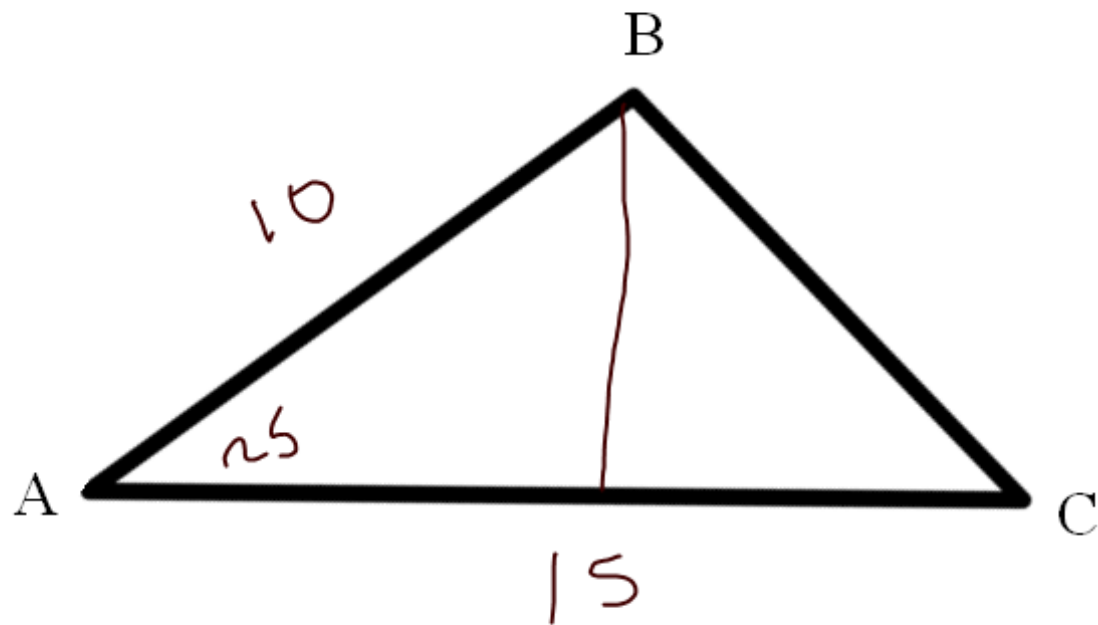
~~$\tan C$~~

$$\sin C = \frac{h}{a}$$

$$a \sin C = h$$

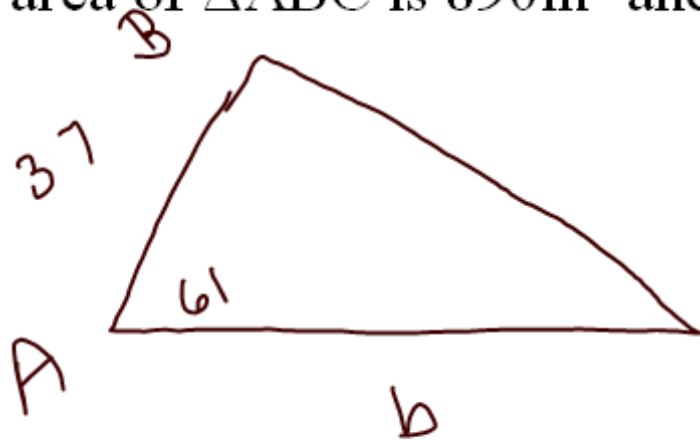
$$A = \frac{1}{2} b (a \sin C)$$

Find the area of $\triangle ABC$ if $c = 10$, $b = 15$ and $m\angle A = 25^\circ$.



$$\begin{aligned} A &= \frac{1}{2} bc \sin A \\ &= \frac{1}{2} (15)(10) \sin 25^\circ \\ &31.7 \end{aligned}$$

If the area of $\triangle ABC$ is 890in^2 and $c = 37$, $m\angle A = 61^\circ$, find b .



$$A = \frac{1}{2} bc \sin A$$
$$890 = \frac{1}{2} b(37) \sin 61^\circ$$

$$c \quad \frac{890}{16.2} = \frac{16.2 b}{16.2}$$

$$b = 54.9$$

If the area of $\triangle ABC$ is 10.4in^2 and $c = 8$, $b = 3$, find $m\angle A$.

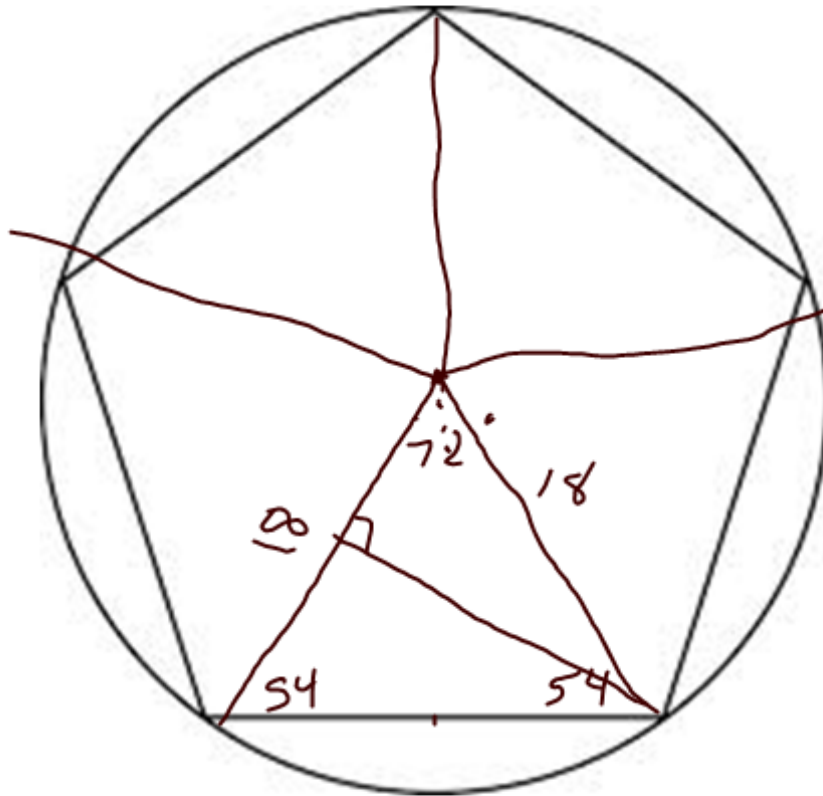
$$A = \frac{1}{2} bc \sin A$$

$$\frac{10.4}{12} = \frac{\frac{1}{2}(3)(8)\sin A}{12}$$

$$.8666 = \sin A$$
$$\sin^{-1}(.8666)$$

$$A = 60^\circ \text{ or } 120^\circ$$

Find the area of a regular pentagon inscribed in a circle with radius 18.



$$\frac{360}{5} = 72^\circ$$

Pg 341 CE 1 – 5

Pg 342 2, 5, 6, 8, 10 – 13

A#13