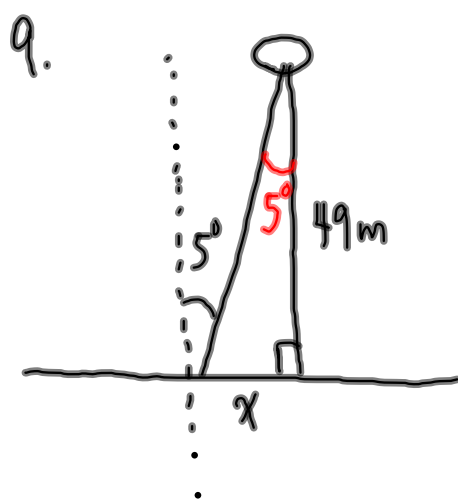


## Right Angle Trig Practice Sheet



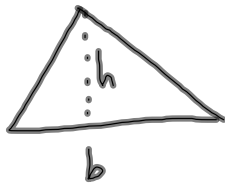
$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan 5^\circ = \frac{x}{49\text{m}}$$

$$x = (49\text{m})(\tan 5^\circ)$$

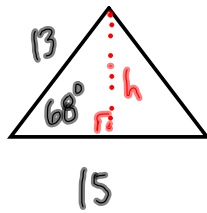
$$x \approx 4.3\text{m}$$

## Area of a Triangle



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

### Example



$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 68^\circ = \frac{h}{13}$$

$$h = 13(\sin 68^\circ)$$

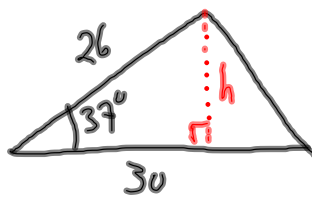
$$h \approx 12.1$$

$$\text{Area} = \frac{1}{2}bh$$

$$\text{Area} \approx \frac{1}{2}(15)(12.1)$$

$$\text{Area} \approx 90.4$$

### Example



$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 37^\circ = \frac{h}{26}$$

$$h = 26 \sin 37^\circ$$

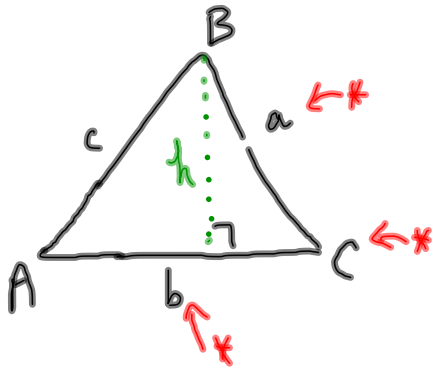
$$h \approx 15.6$$

$$\text{Area} = \frac{1}{2}bh$$

$$\text{Area} \approx \frac{1}{2}(30)(15.6)$$

$$\text{Area} \approx 234.7$$

More Generally:



\* we know these.

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

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

$$h = a \sin C$$

$$\text{Area} = \frac{1}{2} \text{base} \times \text{height}$$

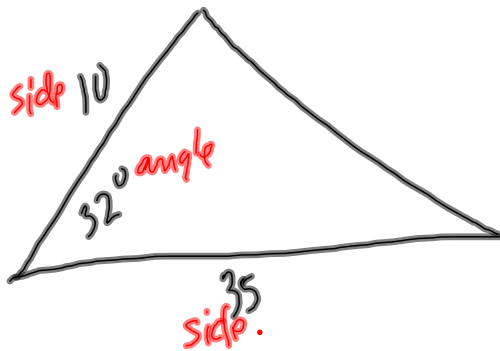
$$\text{Area} = \frac{1}{2} b a \sin C$$

$$\text{Area} = \frac{1}{2} ab \sin C$$

\* If you know two sides and the angle formed by those sides, you can find the area of any triangle.

(SAS)

side angle side



$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \frac{1}{2} (10)(35) \sin 32^\circ$$

$$\text{Area} \approx 92.7$$