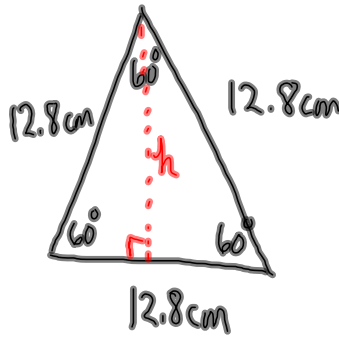


Worksheet Answers

- 6a) 4.2 b) 9.9 c) 31deg d) 35deg e) 15deg f) 28deg g) 53deg h) 53deg i) 30deg j) 60deg k) 6.7 l) 45deg
 7a) 8.0 b) 13.3 c) 61.8deg d) 19.4 e) 16.7 f) 63.4 g) 40.5deg h) 55.2deg
 8a) 25.7m b) 1324.8m c) 46.4m d) 67.4deg
 9a) $x=12.0$, angle=33.7deg b) $x=12.0$, $y=20.6$, angle=59.0deg
 10) $C=26\text{deg}$, $AB=7.9$, $AC=16.2$
 11) 70.9 sqcm
 12) 8.5m
 13) 89.4m
 14) 36.9m
 15) 13.5m
 16) 12.4m

11.



Find the height:

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

$$\sin 60^\circ = \frac{h}{12.8\text{cm}}$$

$$h = (12.8\text{cm})(\sin 60^\circ)$$

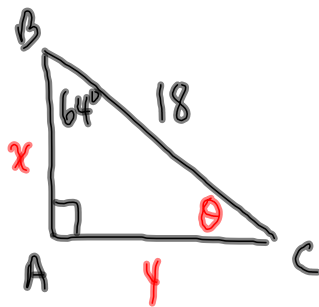
$$h = 11.0851\dots$$

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

$$= \frac{1}{2}(12.8\text{cm})(11.0851\dots)$$

$$= 70.9\text{ cm}^2$$

10.



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

$$\sin 64^\circ = \frac{y}{18}$$

$$y = 18 \sin 64^\circ$$

$$y = 16.2$$

$$64^\circ + \theta = 90^\circ$$

$$\theta = 26^\circ$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\cos 64^\circ = \frac{x}{18}$$

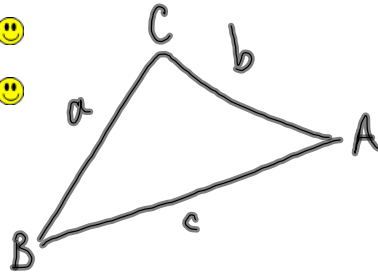
$$x = 18 \cos 64^\circ$$

$$x = 7.9$$

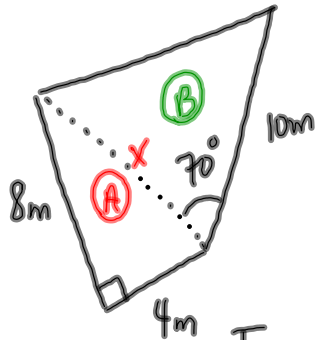
Area of a Triangle

You can find the area of any triangle if you know 2 sides and the angle formed by those sides (SAS)

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



Example ~ Find the Area of a quadrilateral with a right angle



① Area of (A)

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

$$\text{Area} = \frac{1}{2} (8m)(4m)$$

$$\text{Area} = 16m^2$$

In order to find the area of (B) we need to find x

③ Find the area of (B)

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

$$\text{Area} = \frac{1}{2} (8.9m)(10m) \sin 70^\circ$$

$$\text{Area} = 42.0m^2$$

②

$$c^2 = a^2 + b^2$$

$$c^2 = (4m)^2 + (8m)^2$$

$$c^2 = 16m^2 + 64m^2$$

$$c^2 = 80m^2$$

$$c = 8.9m$$

- ④ TOTAL AREA = $16m^2 + 42m^2 = 58m^2$