

Pythagorean Theorem and Trigonometry

Find $\sin \theta$, $\cos \theta$ and $\tan \theta$ as fractions for each right triangle.

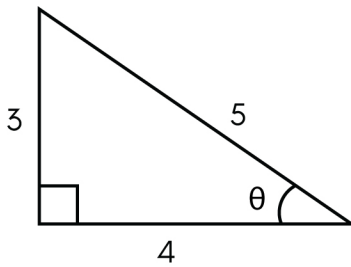
Use,

$$\sin \theta = \frac{\text{opposite side}}{\text{hypotenuse}}$$

$$\cos \theta = \frac{\text{adjacent side}}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{opposite side}}{\text{adjacent side}}$$

1)

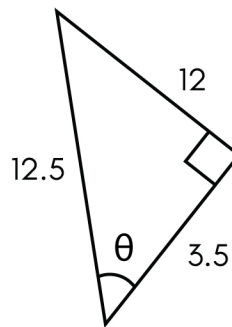


$$\sin \theta = \frac{\boxed{}}{\boxed{}}$$

$$\cos \theta = \frac{\boxed{}}{\boxed{}}$$

$$\tan \theta = \frac{\boxed{}}{\boxed{}}$$

2)

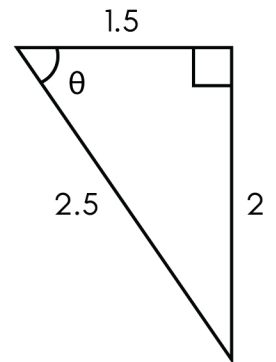


$$\sin \theta = \frac{\boxed{}}{\boxed{}}$$

$$\cos \theta = \frac{\boxed{}}{\boxed{}}$$

$$\tan \theta = \frac{\boxed{}}{\boxed{}}$$

3)



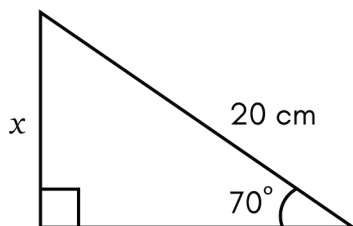
$$\sin \theta = \frac{\boxed{}}{\boxed{}}$$

$$\cos \theta = \frac{\boxed{}}{\boxed{}}$$

$$\tan \theta = \frac{\boxed{}}{\boxed{}}$$

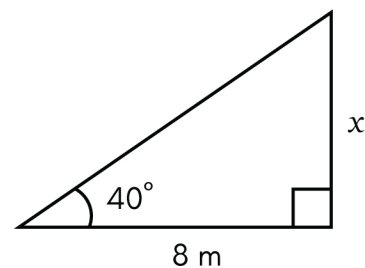
Find the length of the unknown side marked 'x' in each right triangle. Work out on a separate sheet of paper.

4)



$$x = \underline{\hspace{2cm}}$$

5)



$$x = \underline{\hspace{2cm}}$$

Pythagorean Theorem and Trigonometry

Answers

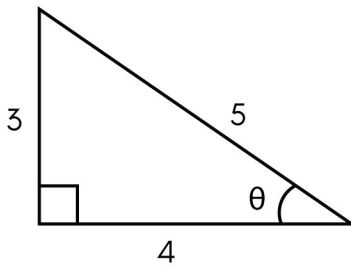
Use,

$$\sin \theta = \frac{\text{opposite side}}{\text{hypotenuse}}$$

$$\cos \theta = \frac{\text{adjacent side}}{\text{hypotenuse}}$$

$$\tan \theta = \frac{\text{opposite side}}{\text{adjacent side}}$$

1)

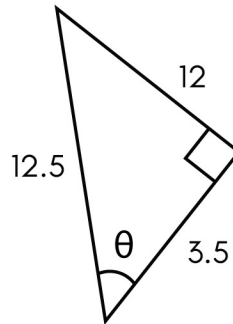


$$\sin \theta = \frac{\boxed{3}}{\boxed{5}}$$

$$\cos \theta = \frac{\boxed{4}}{\boxed{5}}$$

$$\tan \theta = \frac{\boxed{3}}{\boxed{4}}$$

2)

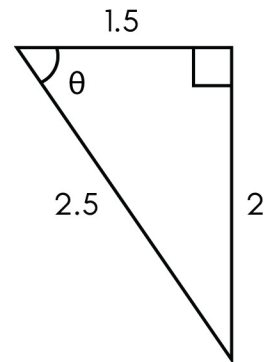


$$\sin \theta = \frac{\boxed{12}}{\boxed{12.5}}$$

$$\cos \theta = \frac{\boxed{3.5}}{\boxed{12.5}}$$

$$\tan \theta = \frac{\boxed{12}}{\boxed{3.5}}$$

3)

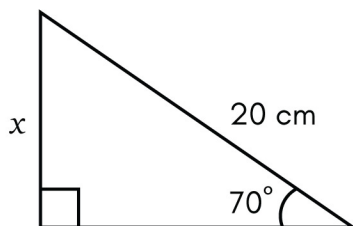


$$\sin \theta = \frac{\boxed{2}}{\boxed{2.5}}$$

$$\cos \theta = \frac{\boxed{1.5}}{\boxed{2.5}}$$

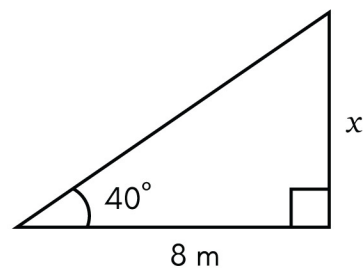
$$\tan \theta = \frac{\boxed{2}}{\boxed{1.5}}$$

4)



$$x = \underline{18.8 \text{ cm}}$$

5)



$$x = \underline{6.7 \text{ m}}$$