

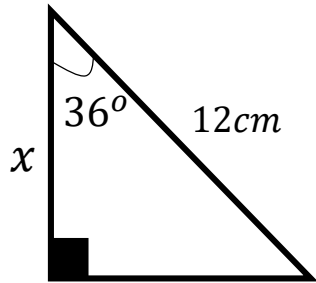


# Timester Challenge

## Trigonometry – Missing Side

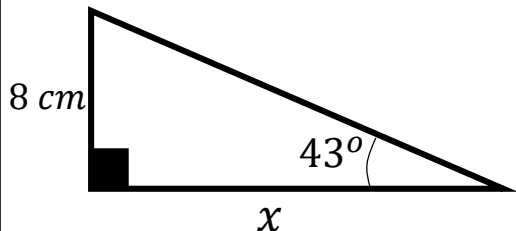


Calculate the length of side  $x$ .  
Give your answer correct to 1 decimal place.



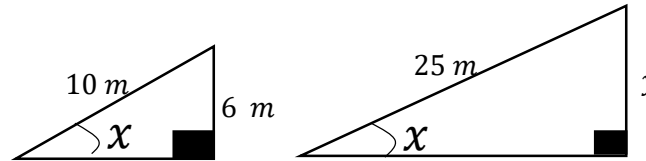
Bronze ★

Calculate the length of side  $x$ .  
Give your answer correct to 3 significant figures.



Bronze ★

These two right angled triangles are similar.

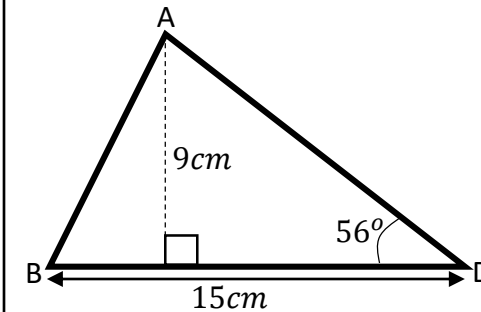


a) Write down the value of  $\sin x$ .  
Give your answer as a fraction.

b) Work out the value of  $y$

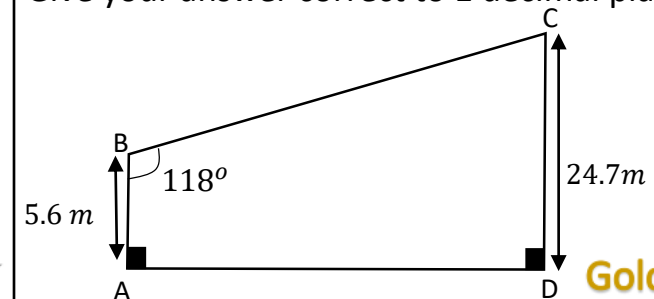
Silver ★

Calculate the length of  $AB$ .  
Give your answer correct to 1 decimal place.



Gold ★

A ski slope has been designed for the winter Olympics. Calculate the length of the slope  $BC$ .  
Give your answer correct to 1 decimal place.



Gold ★



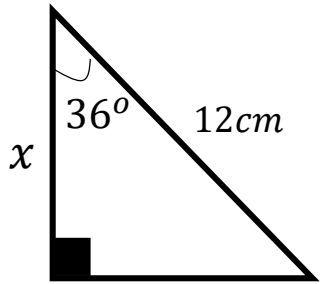
# Timester Challenge

## Trigonometry – Missing Side



### Answers

Calculate the length of side  $x$ .  
Give your answer correct to 1 decimal place.



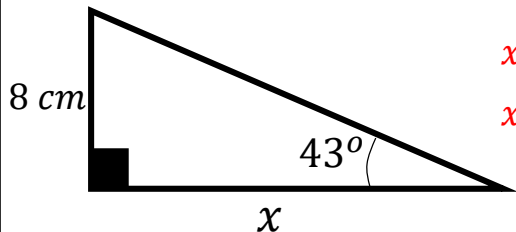
$$\cos 36 = \frac{x}{12}$$

$$x = 12 \cos 36$$

$$x = 9.7 \text{ cm}$$

Bronze ★

Calculate the length of side  $x$ .  
Give your answer correct to 3 significant figures.



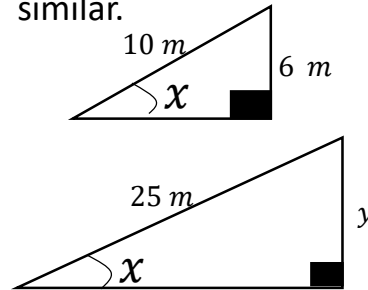
$$\tan 43 = \frac{8}{x}$$

$$x = \frac{8}{\tan 43}$$

$$x = 8.58 \text{ cm}$$

Bronze ★

These two right angled triangles are similar.



- a) Write down the value of  $\sin x$ .  
Give your answer as a fraction.

$$\sin x = \frac{6}{10} = \frac{3}{5}$$

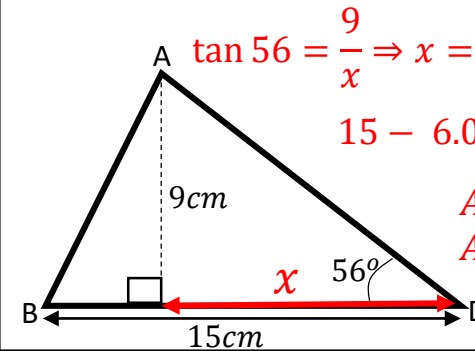
- b) Work out the value of  $y$

$$\sin x = \frac{y}{25}$$

$$\frac{3}{5} = \frac{y}{25}$$

$$y = 25 \times \frac{3}{5} = 15 \text{ cm}$$

Calculate the length of  $AB$ .  
Give your answer correct to 1 decimal place.



$$\tan 56 = \frac{9}{x} \Rightarrow x = \frac{9}{\tan 56} \Rightarrow x = 6.0705 \dots$$

$$15 - 6.0705 \dots = 8.9294 \dots$$

$$AB = \sqrt{9^2 + (8.9294)^2}$$

$$AB = 12.7 \text{ cm}$$

Gold ★

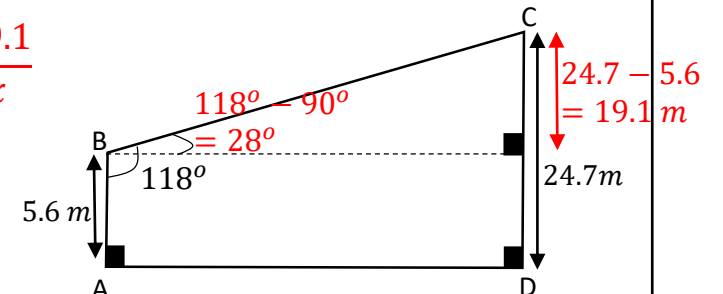
A ski slope has been designed for the winter Olympics.  
Calculate the length of the slope  $BC$ .

Give your answer correct to 1 decimal place.

$$\sin 28 = \frac{19.1}{x}$$

$$x = \frac{19.1}{\sin 28}$$

$$x = 40.7 \text{ m}$$



Gold ★