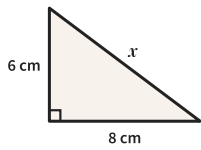


Interleaved: Pythagoras and trigonometry

ANSWERS 

1

Find x .



Which method? ☒ Pythagoras ☐ SOH CAH TOA

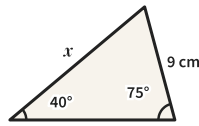
☐ Sine rule ☐ Cosine rule

right angled, a side: $6^2 + 8^2 = 100$,
 $\sqrt{100} = 10$

Answer 10 cm

2

Find x . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☐ SOH CAH TOA

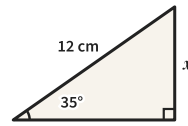
☒ Sine rule ☐ Cosine rule

$x \div \sin 75^\circ = 9 \div \sin 40^\circ$

Answer 13.5 cm

3

Find x . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☒ SOH CAH TOA

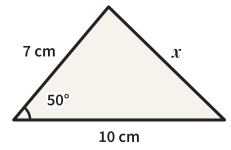
☐ Sine rule ☐ Cosine rule

$x = 12 \sin 35^\circ$

Answer 6.9 cm

4

Find x . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☐ SOH CAH TOA

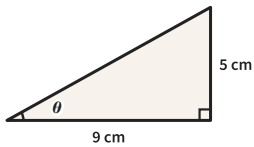
☐ Sine rule ☒ Cosine rule

$x^2 = 7^2 + 10^2 - 2 \times 7 \times 10 \times \cos 50^\circ$

Answer 7.7 cm

5

Find the angle θ . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☒ SOH CAH TOA

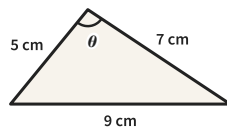
☐ Sine rule ☐ Cosine rule

$\tan \theta = 5 \div 9$

Answer 29.1°

6

Find the angle θ . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☐ SOH CAH TOA

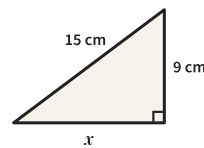
☐ Sine rule ☒ Cosine rule

$\cos \theta = (5^2 + 7^2 - 9^2) \div (2 \times 5 \times 7)$

Answer 95.7°

7

Find x .



Which method? ☒ Pythagoras ☐ SOH CAH TOA

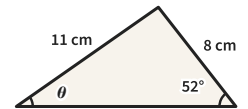
☐ Sine rule ☐ Cosine rule

$15^2 - 9^2 = 144$

Answer 12 cm

8

Find the acute angle θ . Give your answer to 1 decimal place.



Which method? ☐ Pythagoras ☐ SOH CAH TOA

☒ Sine rule ☐ Cosine rule

$\sin \theta \div 8 = \sin 52^\circ \div 11$

Answer 35.0°

Interleaved: Pythagoras and trigonometry further practice

ANSWERS 

9

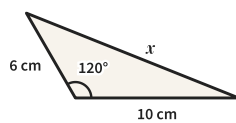
A zip wire runs in a straight line from the top of a 14 m tower to a point on level ground 30 m from the foot of the tower. How long is the wire? Give your answer to 1 decimal place.

$14^2 + 30^2 = 1096$

Answer 33.1 m

10

Find x .



$36 + 100 - 120 \cos 120^\circ = 196$

Answer 14 cm

11

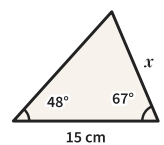
A kite flies on a straight 40 m string. The string makes an angle of 62° with the level ground. How high is the kite above the point where the string is held? Give your answer to 1 decimal place.

$40 \sin 62^\circ$

Answer 35.3 m

12

Find x . Give your answer to 1 decimal place.

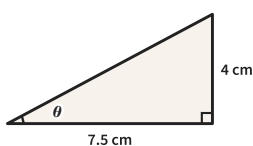


the third angle is 65° : $x \div \sin 48^\circ = 15 \div \sin 65^\circ$

Answer 12.3 cm

13

Find the angle θ . Give your answer to 1 decimal place.



$\tan \theta = 4 \div 7.5$

Answer 28.1°

14

Two boats leave a harbour. One sails 6 km in a straight line and the other sails 9 km. The angle between their paths is 72° . How far apart are they? Give your answer to 1 decimal place.

$6^2 + 9^2 - 2 \times 6 \times 9 \times \cos 72^\circ$

Answer 9.1 km

15

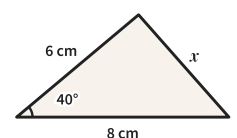
A rectangular screen is 70 cm wide. Its diagonal is 80 cm. How tall is the screen? Give your answer to 1 decimal place.

$80^2 - 70^2 = 1500$

Answer 38.7 cm

16

Sam wants to find x with the sine rule. Explain why he cannot, and find x .



no angle is known with its opposite side, so use the cosine rule

Answer cosine rule, 5.1 cm