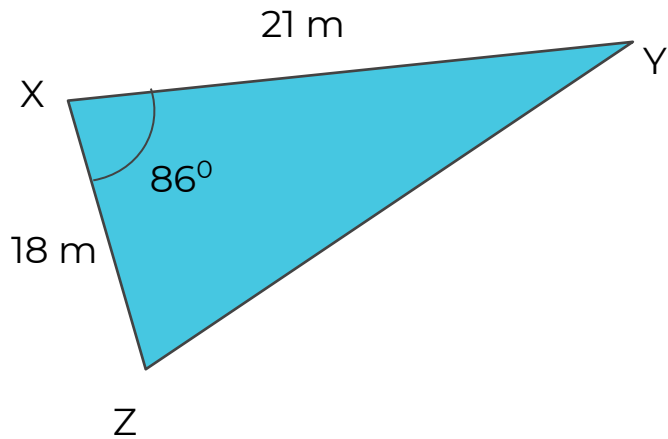


Use the cosine rule to find a missing length

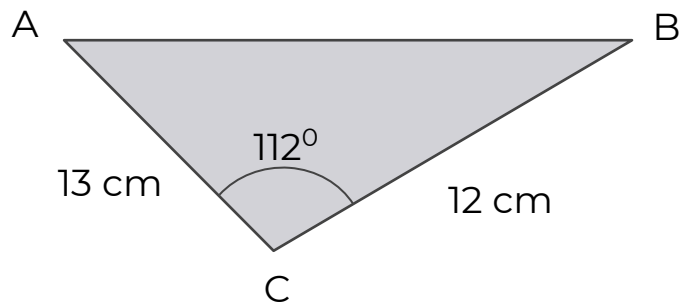


Use the cosine rule to find a missing length

1. Use the cosine rule to find the length of side YZ to three significant figures.

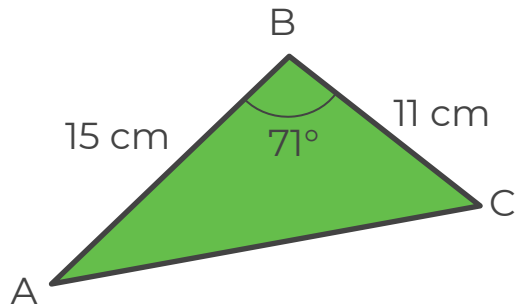


2. Calculate the length of AB to 2 decimal places.



Use the cosine rule to find a missing length

3. Mo is trying to work out the length of AC.



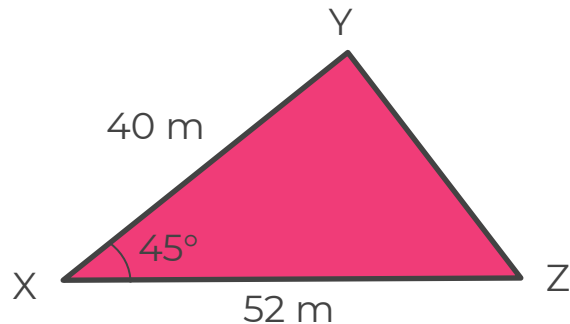
Here is his working out.

$$AC = 15^2 + 11^2 - 2 \times 15^2 \times 11^2 \times \cos(71)$$

What mistake has he made?

What is the correct answer?

4. Below is a diagram of a triangle.



Calculate the perimeter of the shape.

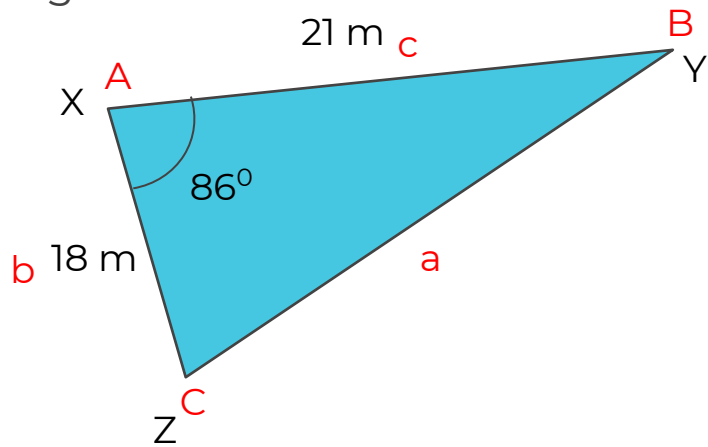


Answers



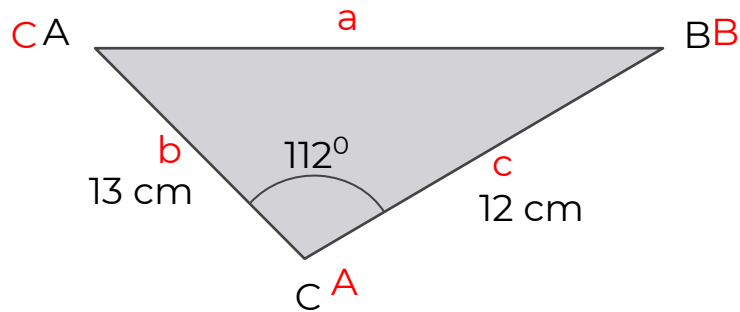
Use the cosine rule to find a missing length

1. Use the cosine rule to find the length of side YZ to three significant figures.



$$(YZ)^2 = 18^2 + 21^2 - 2 \times 18 \times 21 \times \cos(86)$$
$$YZ = 26.7 \text{ m}$$

2. Calculate the length of AB to 2 decimal places.

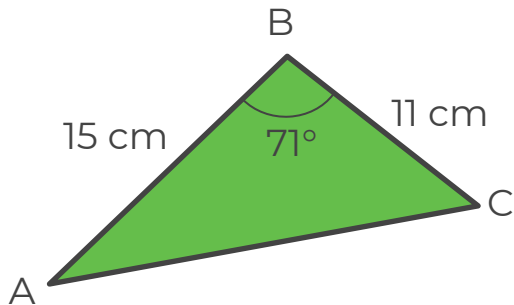


$$(AB)^2 = 13^2 + 12^2 - 2 \times 13 \times 12 \times \cos(112)$$
$$AB = 20.73 \text{ m}$$



Use the cosine rule to find a missing length

3. Mo is trying to work out the length of AC.



Here is his working out.

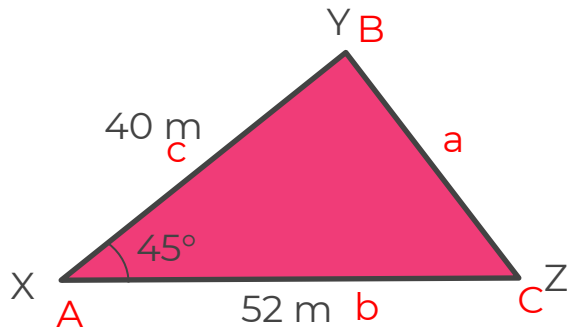
$$AC = 15^2 + 11^2 - 2 \times 15^2 \times 11^2 \times \cos(71)$$

What mistake has he made?

He squared 15 cm and 11 cm twice.

What is the correct answer? 15.4 cm

4. Below is a diagram of a triangle.



Calculate the perimeter of the shape.

$$(BC)^2 = 52^2 + 40^2 - 2 \times 52 \times 40 \times \cos(45)$$
$$BC = 36.911.....$$

$$\text{Perimeter} = 128.9 \text{ m}$$

