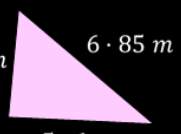
Outcome 1 – Applying Pythagoras' Theorem

Bronze example

Example...

Use the converse of Pythagoras' Theorem to determine whether or not the following triangle is right-angled.



By the converse of Pythagoras...

$6 \cdot 85^2 = 4 \cdot 3^2 + 5 \cdot 6^2$

$6 \cdot 85^2 = 46 \cdot 9225$

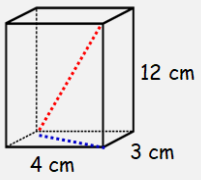
$4 \cdot 3^2 + 5 \cdot 6^2 = 49 \cdot 85$

Since LHS ≠ RHS, triangle is NOT right-angled.

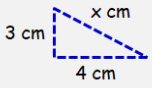
Silver example

Example...

For this cuboid, calculate the length of the space diagonal...



1. Use Pythagoras to calculate the base diagonal...



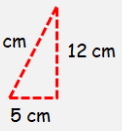
$x^2 = 3^2 + 4^2 = 25$

$x = \sqrt{25} = 5\ cm$

2. Use Pythagoras to calculate the space diagonal...

$y^2 = 12^2 + 5^2 = 169$

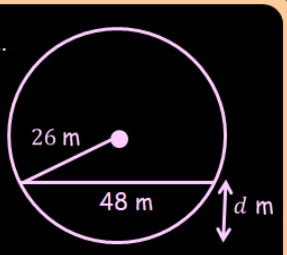
$y = \sqrt{169} = 13\ cm$



Gold example

Example...

Calculate the length of the side marked 'd' in the circle.



$x^2 = 26^2 - 24^2$

$= 100$

$x = \sqrt{100} = 10\ m$

$d = 26 - 10 = 16\ m$

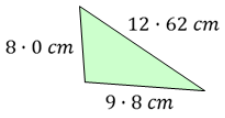
Draw a triangle

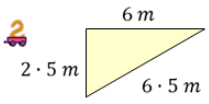
Use Pythag

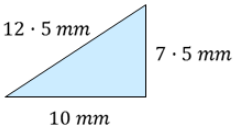
Answer Question

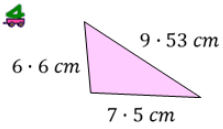
Bronze Questions

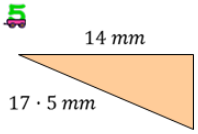
Use the converse of Pythagoras to determine whether or not the following triangles are right-angled...

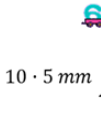
1. 

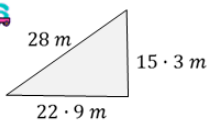
2. 

3. 

4. 

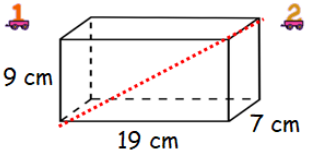
5. 

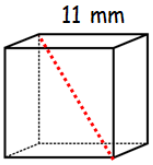


6. 

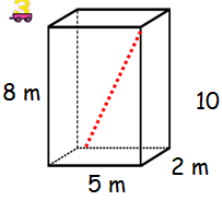
Silver Questions

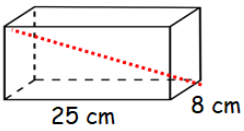
For each of the following cuboids, calculate the length of the space diagonal...

1. 

2. 

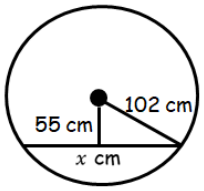
Cube!

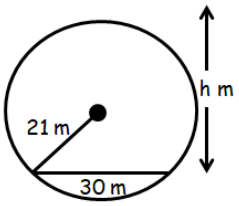
3. 

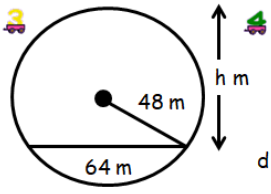
4. 

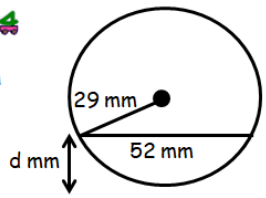
Gold Questions

Calculate the length of the side marked 'x' in the circles below...

1. 

2. 

3. 

4. 

Bronze Answers

1. No
2. Yes
3. Yes
4. No
5. Yes
6. No

Silver Answers

1. 22·1 cm
2. 19·1 mm
3. 9·7 m
4. 28·0 cm

Gold Answers

1. 171·80 cm
2. 35·70 m
3. 83·78 m
4. 16·15 mm