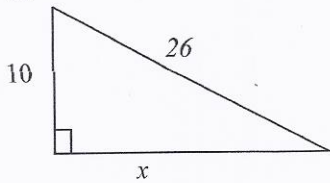


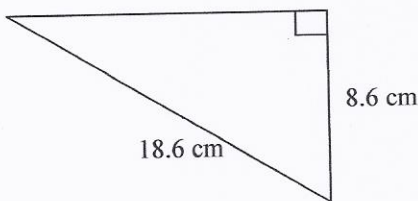
You must show FULL WORKING out for all questions for this test.

Question 7 (2 marks) if you show some working
The value of the pronumeral in this diagram is:



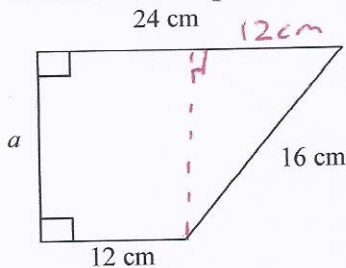
- A 34.5
- B 24.1
- C 26.2
- D 27.9**
- E 17.6

Question 8 (3 marks)
Find the value of the pronumeral (d) in this diagram. **Correct to one decimal place.**



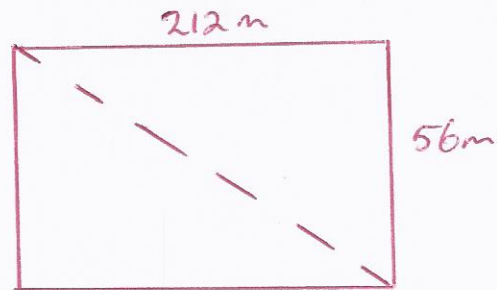
$$\begin{aligned}
 a^2 + b^2 &= h^2 \\
 8.6^2 + b^2 &= 18.6^2 \\
 73.96 + b^2 &= 345.96 \\
 b^2 &= 345.96 - 73.96 \\
 b^2 &= 272 \\
 b &= \sqrt{272} \\
 b &= 16.5 \text{ cm} \quad d = 16.5 \text{ cm}
 \end{aligned}$$

Question 8 (3 marks)
Find the value of the pronumeral (a) **Correct to one decimal place.**



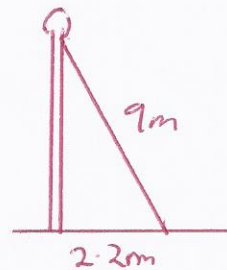
$$\begin{aligned}
 a^2 + b^2 &= h^2 \\
 12^2 + b^2 &= 16^2 \\
 144 + b^2 &= 256 \\
 b^2 &= 256 - 144 \\
 b^2 &= 112 \\
 b &= \sqrt{112} \\
 b &= 10.6 \text{ cm} \quad a = 10.6 \text{ cm}
 \end{aligned}$$

Question 9 (3 marks) **diagram & full working**
Christiana walks diagonally from corner to corner in a rectangular field 56 m long and 212 m wide. How far does she walk?



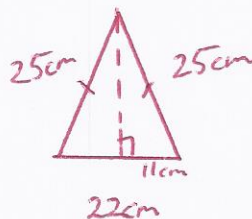
$$\begin{aligned}
 a^2 + b^2 &= h^2 \\
 212^2 + 56^2 &= h^2 \\
 44,944 + 3,136 &= h^2 \\
 48,080 &= h^2 \\
 h &= \sqrt{48,080} \\
 h &= 219.3 \text{ m}
 \end{aligned}$$

Question 10 (3 marks)
diagram & full working
How tall is a flag pole if it is anchored 2.2 m from its base with a 9 m support wire?



$$\begin{aligned}
 a^2 + b^2 &= h^2 \\
 2.2^2 + b^2 &= 9^2 \\
 4.84 + b^2 &= 81 \\
 b^2 &= 81 - 4.84 \\
 b^2 &= 76.16 \\
 b &= \sqrt{76.16} \\
 b &= 8.7 \text{ m}
 \end{aligned}$$

Question 11 (3 marks)
Find the height of an isosceles triangle with equal sides of 25 cm and base of 22 cm. **Correct to one decimal place.**



$$\begin{aligned}
 a^2 + b^2 &= h^2 \\
 11^2 + b^2 &= 25^2 \\
 121 + b^2 &= 625 \\
 b^2 &= 625 - 121 \\
 b^2 &= 504 \\
 b &= \sqrt{504} \\
 b &= 22.4 \text{ cm}
 \end{aligned}$$

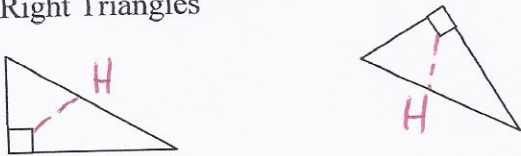
You must show FULL WORKING out for all questions for this test.

Pythagoras Theorem Test

Name: _____

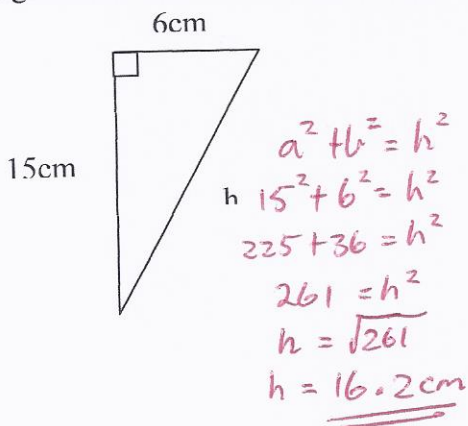
Question 1 (2 marks)

Mark in the Hypotenuse on the following Right Triangles



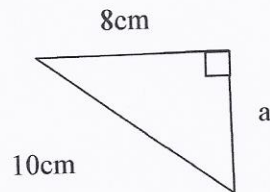
Question 2 (3 marks)

What is the length of the hypotenuse in the triangle below? Show to 1 decimal place.



Question 4 (3 marks)

Find the length of the missing side (a) to 1 decimal place.

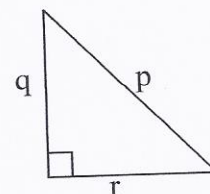


$a^2 + b^2 = h^2$
 $8^2 + b^2 = 10^2$
 $64 + b^2 = 100$
 $b^2 = 100 - 64$
 $b^2 = \sqrt{36}$
 $b = 6\text{cm}$

Question 5 (1 mark)

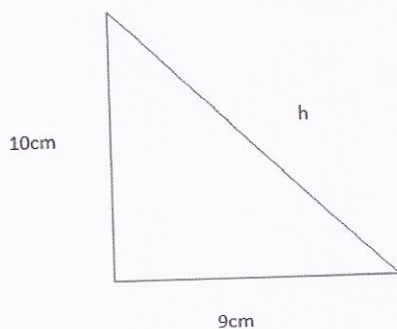
In this right-angled triangle, circle which of the following statements is true?

- A $r^2 - q^2 = p^2$
- B $q^2 + p^2 = r^2$
- C $p^2 = q^2 - r^2$
- D $r^2 + p^2 = q^2$
- E $p^2 - q^2 = r^2$



Question 3 (3 marks)

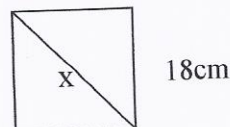
What is the length of the hypotenuse in the triangle below? Show to 1 decimal place.



$a^2 + b^2 = h^2$
 $10^2 + 9^2 = h^2$
 $100 + 81 = h^2$
 $181 = h^2$
 $h = \sqrt{181}$
 $h = \underline{\underline{13.5\text{cm}}}$

Question 6 (3 marks)

What is the length of the diagonal (x) in a square with side length of 18 cm? (1 decimal place)



$a^2 + b^2 = h^2$
 $18^2 + 18^2 = h^2$
 $324 + 324 = h^2$
 $648 = h^2$
 $h = \sqrt{648}$
 $h = \underline{\underline{25.5\text{cm}}}$