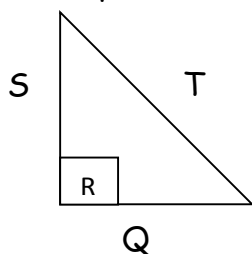


Name: \_\_\_\_\_

NON- CALCULATOR SECTION (20 Marks)

1. What is the square of 4? [8N1.5]  
A) 2  
B) 4  
C) 8  
D) 16
2. What is the side length of a square with an area of  $64\text{mm}^2$ ? [8N1.4]  
A) 8mm  
B) 16mm  
C) 32mm  
D) 128mm
3. What is the best estimate for  $\sqrt{12}$ ? [8N2.1]  
A) 3.1  
B) 3.3  
C) 3.5  
D) 3.7
4. Which of the following is a perfect square number? [8N1]  
A) 56  
B) 72  
C) 99  
D) 121
5. Which letter below represents the hypotenuse of the right triangle?



[8SS1]

- A) Q
- B) R
- C) S
- D) T

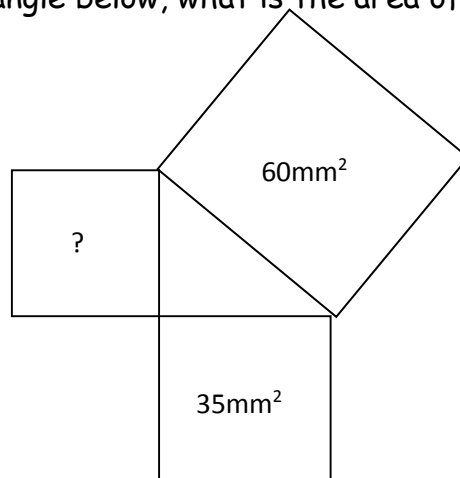
6. Which is a Pythagorean triple?

[8SS1.5]

- A) 1,2,3
- B) 4,5,6
- C) 6,8,10
- D) 7,8,11

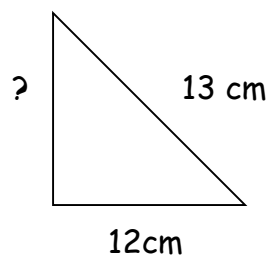
7. Given the right triangle below, what is the area of the indicated square?

- A)  $5\text{mm}^2$
- B)  $9.7\text{mm}^2$
- C)  $25\text{mm}^2$
- D)  $95\text{mm}^2$



8. What is the length of the missing side?

[8SS1.2]



- A) 1 cm
- B) 5cm
- C) 11 cm

D) 25cm

9. A ramp is 11m long. The horizontal distance it spans is 10m. What is the vertical height of the ramp, estimated to the nearest tenth of a meter?

A) 4.4 m

[8SS1.2]

B) 4.6m

C) 14.8m

D) 15.0m

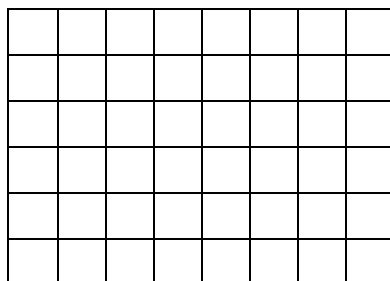
Name: \_\_\_\_\_

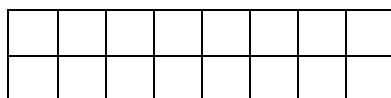
CONSTRUCTED RESPONSE (25 MARKS )

Use of a calculator is permitted. SHOW ALL WORKINGS!!!

1. Using the grid below, model 9 as a perfect square. (2)

[8N1.1]





2. Place each square root on the number line to show its approximate value. (4)

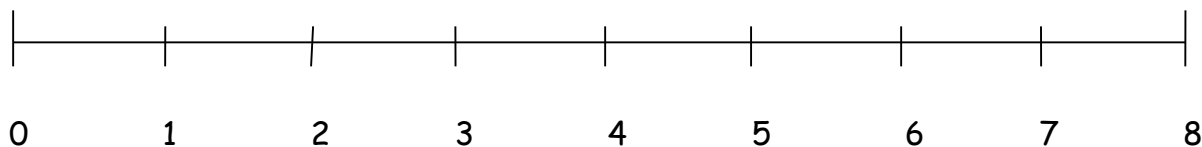
A)  $\sqrt{16}$

B)  $\sqrt{32}$

C)  $\sqrt{12}$

D)  $\sqrt{23}$

[8N2.1]



3. Use the method of your choice to show how 242 is a perfect square but 250 is not. (4)

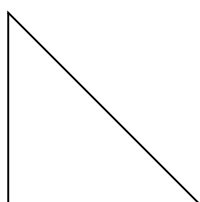
[8N1.2/3]

4. Explain how you would estimate  $\sqrt{46}$  to the tenths position without using a calculator. (3)

[8N2.1]

5. Find the missing length.(3)

[8SS1.2]



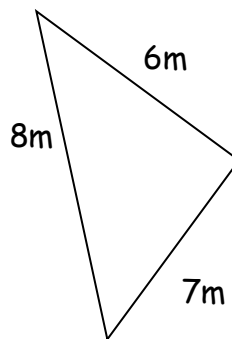
10cm

26cm

?

6. Knowing only the side lengths, is the triangle below a right triangle? Explain how you know. (3)

[8SS1.4]



7. Sam uses a 4m ladder to reach the eave along his roof. How high does the ladder reach up the side of the house, if the bottom of the ladder is 1.5m away from the house? (3)

[8SS1.2]

8. The dimensions of a rectangular frame is 30cm by 40cm. A carpenter wants to put a diagonal brace between the opposite corners. Find the length of the brace.

Make a diagram to support your answer (3)

[8SS1.5]