Name: _____    Date: _____

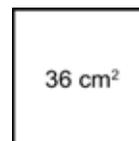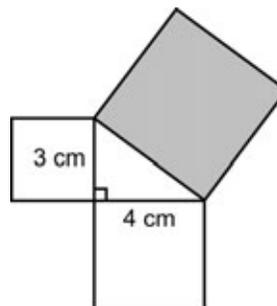# Chapter 3 Test

*For #1 to #5, select the best answer.*

**1.** Which number is not a perfect square?

**A** 9          **B** 16          **C** 55          **D** 121

**2.** A square has a side length of 9 mm. What is the area of the square?

**A** 18 mm²          **B** 36 mm²          **C** 49 mm²          **D** 81 mm²

**3.** The square root of 63 is closest to which whole number?

**A** 5          **B** 6          **C** 7          **D** 8

**4.** What is the side length of the square in the diagram?

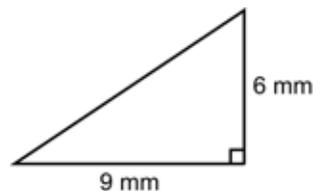**A** 5 cm          **B** 6 cm          **C** 9 cm          **D** 12 cm

36 cm²

**5.** What is the area of the shaded square?

**A** 25 cm²          **B** 36 cm²

**C** 49 cm²          **D** 60 cm²

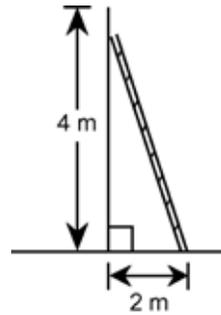3 cm

4 cm

**Short Answer**

**6.** What is the area of a square with the following side length?

**a)** 8 cm          **b)** 11 m          **c)** 50 mm          **d)** 13 cm

**7.** Find the value of the missing side length,
to the nearest tenth of a millimetre.

6 mm

9 mm

**8.** Is a triangle with side lengths measuring 8 m, 6 m, and 10 m a right
triangle? Show all of your work, and explain your reasoning.

Name: _____     Date: _____
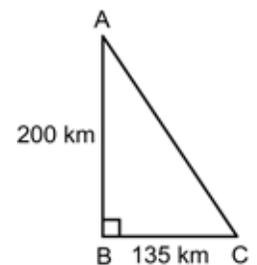
**9.** How long is the ladder to the
nearest tenth of a metre?

4 m

2 m

**10.** Estimate the square root of the following numbers, to the nearest tenth.
Show your thinking.

**a)** 39          **b)** 137          **c)** 175          **d)** 420

**11.** In your own words, describe what the formula $c^2 = a^2 + b^2$ tells about
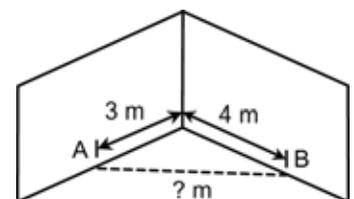the relationship among the sides in a right triangle.

**Extended Response**

**12.** Two cars leave A at the same time. Martin's car
travels directly from A to C at a constant rate of
80 km/h. Kathleen's car travels from A to B at a
constant rate of 100 km/hour, and then continues
to C at a constant rate of 90 km/h.

**a)** Who will arrive at C first?

**b)** How many minutes later will the second person arrive?

A

200 km

B  135 km  C

**13.** Carpenters are checking to see if two walls meet
in a corner to form a 90º angle. They measure 3 m
from the corner along one wall to point A and 4 m
from the corner along the other wall to point B.

**a)** If the angle is 90º, what is the distance from
A to B?

**b)** Why do you think it is important for the two
walls to create a 90º angle?

3 m    4 m

A                B

? m

**14.** Can a perfect square less than 1000 ever have a last digit that is 2, 3,
7, or 8?

• If your answer is no, explain why it is not possible.

• If your answer is yes, justify your answer and provide an example.