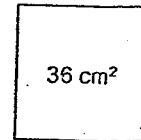


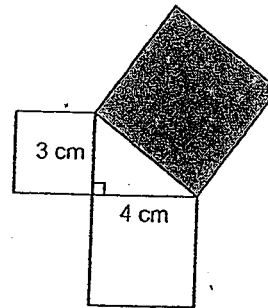
Learning Outcome A1, A2 & C1

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

- Which number is not a perfect square?
A 9 B 16 C 55 D 121
- 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
- The square root of 63 is closest to which whole number?
A 5 B 6 C 7 D 8
- What is the side length of the square in the diagram?
A 5 cm B 6 cm C 9 cm D 12 cm



- What is the area of the shaded square?
A 25 cm² B 36 cm²
C 49 cm² D 60 cm²



Short Answer

- What is the area of a square with the following side length?
a) 8 cm b) 11 m c) 50 mm d) 13 cm
- Estimate the square root of the following numbers, to the nearest tenth. Show your thinking.
a) 39 b) 137 c) 175 d) 420

- Evaluate:

a) $\sqrt{16} =$ b) $\sqrt{625} =$ c) $\sqrt{1025} =$

(12) 9. Give the prime factorization for each number.

Then give the square root of each number. Justify your answer based on the prime factorization.

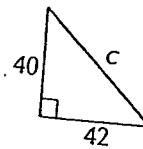
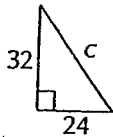
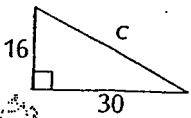
a) $36 =$

b) $324 =$

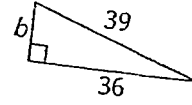
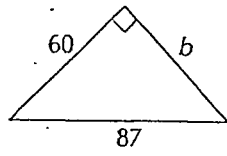
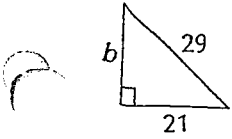
c) $1225 =$

d) $2500 =$

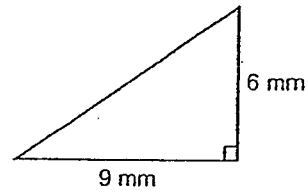
(6) 10. Find the length of the hypotenuse. Show your work.



(6) 11. Find the length of the missing side. Show your work.

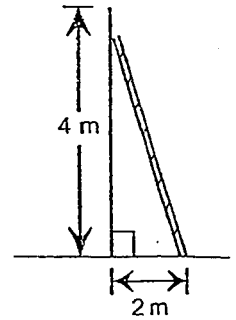


(2) 12. Find the value of the missing side length, to the nearest tenth of a millimetre. Show your work.

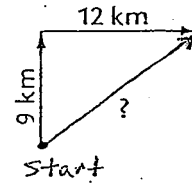


(2) 13. Is a triangle with side lengths measuring 8m, 6m, and 10m, a right triangle? Show all of your work and explain your reasoning.

- (2) 14. How long is the ladder to the nearest tenth of a meter? Show your work.



- (2) 15. Mary hiked 9 km north and 12 km east. How far is she from her starting point? Show your work.



- (3) 16. Bonus: 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/h, and then continues to C at a constant rate of 90 km/h. Who will arrive first? Show your work.

