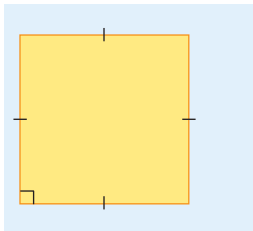# Math 8 Journal Entries

Learning Guide 4

Expectation 1: Find the squares and square roots of whole numbers.

1. Determine the **prime factorization** of 64 and 72. Which number is not

   a **perfect square**? Explain how you know.

2. Explain how you can determine the side length of the following square knowing that it
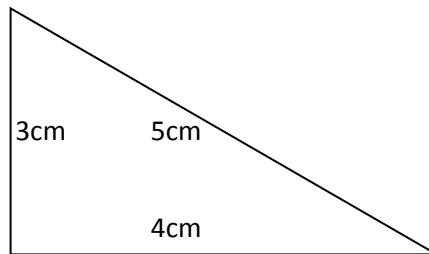
   has the following area, A = 16 cm².

Expectation 2: Determine whether a triangle is a right triangle.

A right triangle drawn below has side lengths 3cm, 4cm and 5cm as shown in the diagram.
a) Sketch the squares that extent off the 3 sides.
b) Explain the Pythagorean relationship using your sketch

3cm   5cm

           4cm

Expectation #3: Estimate the square roots of whole numbers.

a) Identify a whole number with a square root between 8 and 9.
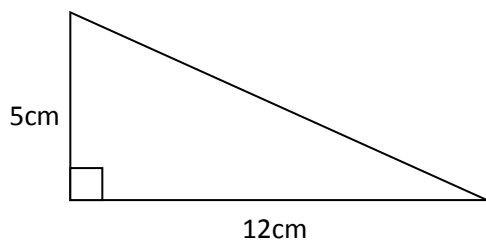b) How many whole numbers can you find that have a square root between 8 and 9? Show your work.

Expectation #4: Apply the Pythagorean relationship to find missing dimensions of triangles.

Explain how you would calculate the length of the hypotenuse of a right triangle. Now use your method to calculate the length of the hypotenuse of the right triangle sketched below.

_____

_____

_____

5cm

12cm

Explain how you would calculate the length of one of the legs of a right triangle. Now use your method to calculate the length of the unknown leg in the right triangle sketched below.

_____

_____

_____

11cm

7cm