**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.

1. 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

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

3cm

4cm

5cm

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.

12cm

5cm

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.

7cm

11cm