LEARNING GUIDE 4: **PYTHAGOREAN RELATIONSHIP**

Ref: Math Links 8 (Chapter 3, pp. 80 - 111)

NAME: _____ TA: _____

TEACHER: _____

LEARNING GUIDE EXPECTATIONS:

(1) find squares & square roots of whole numbers
(2) determine whether a triangle is a right triangle
(3) estimate the square roots of whole numbers
(4) apply Pythagorean relation to find missing lengths of triangles

ASSIGNMENTS:

Expectation 1: squares & square roots

- ☐ Watch & take notes
- ☐ Assignment 1: p. 85 — #5, 7-16
- ☐ Watch & take notes
- ☐ Assignment 2: p. 86 — #17-19, 21, 24, 25 a,b,c,d

Expectation 2: determining right triangles

- ☐ Watch & take notes
- ☐ Assignment 3: p. 92 — #4-6, 8-10
- ☐ Assignment 4: p. 93 — #12, 13, 17, 18, 21

Continued on back page…….

Expectation 3: estimate the square roots of whole numbers

- [ ] Watch & take notes
- [ ] Assignment 5: p. 99 —#4-9
- [ ] Assignment 6: p. 99 — #10, 12, 14, 15, 17

Expectation 4: solve problems involving prisms and cylinders

- [ ] Watch & take notes
- [ ] Assignment 7: p. 104 — #3-11, 13
- [ ] Assignment 8: p. 110 —#3, 4, 6, 8, 12, 13

- [ ] **Review and Challenge**: p. 112 #1-10, 12-14, 16, 17

- [ ] Write Quiz

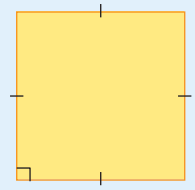
Math 8 Journal Entries

Learning Guide 4

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

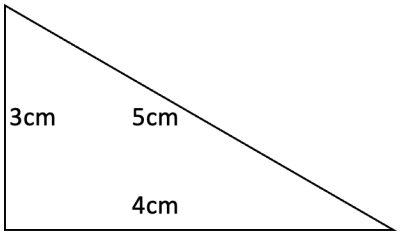
1. Determine the prime factorization of 64 and 72. Which number is not a perfect square? Explain how you know.

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



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

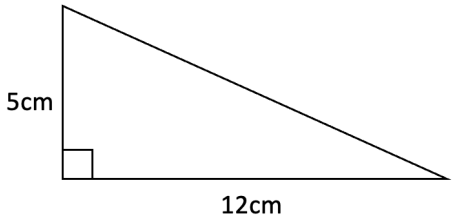


Expectation #3: Estimate the square roots of whole numbers.

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.



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.

