**Math 8: Pythagorean Relationship Final Exam Review**

* **Squares and Square Roots**

1. Write the prime factorization of 125. Is it a perfect square?
2. What is the square of 20?
3. What is the side length of a square with an Area of 64 cm2?

* **Exploring the Pythagorean Relationship**

1. A right triangle has side lengths 30 mm, 65 mm, and 71.59 mm. Draw a square on each side of the triangle. What are the areas of each square? Write an addition statement to the nearest whole number with the three areas.
2. A triangle has side lengths of 5 m, 6 m, and 8 m. Is the triangle a right triangle?

* **Using the Pythagorean Relationship**

1. Determine the length of the hypoteneuse to the nearest tenth.
2. Determine the length of the leg to the nearest tenth.
3. What is the minimum distance the player at third base has to throw the ball to get the runner out at first base? Express your answer to the nearest hundredth.

* **Applying Pythagorean’s Theorem**

1. Jill walks across a rectangular field in a diagonal line. James walks around two sides of the field. They meet at the opposite corner. If the length of the field is 500 m and its width is 200 m:

How far did James walk? How far did Jill walk? Who walked further? By how much?

1. A 300 cm ladder is leaning against a wall. In order to be safe the ladder must be between 70 cm and 110 cm away from the wall. What are the minimum and maximum distances up the wall the ladder can reach to the nearest cm?

**Questions to Review**

Page 85 # 5 – 15, 18 – 20 Pythagorean Relationship Assignment II

92 # 5 – 11, 12(a, c), 13, 15, 17 Pythagorean Relationship Test

Pythagorean Relationship Assignment 1

Page 104 # 3 – 10

110 # 3 – 14