**Unit:** Measurement and Geometry

**WEEK 18 – Brick a House**

**Grade:** Intermediate (9)

**Curriculum Expectations**
**MPM 1D/MFM 1P:** solve problems using the Pythagorean theorem, as required in applications

**SEL:** make connections between math and everyday contexts to help them make informed judgements and decisions

**Activity
1)** For this activity, you are a brick layer redesigning someone’s home. They are building an extension onto their house and have commissioned you to brick the extension and to rebrick the rest of their house to match the new extension  **2)** The owners of the house have sent you the diagram below. The extension they are building (marked in red) is 30 ft wide by 15 ft deep by 10 ft tall. They know that the base of their house measures in a square 30 ft by 30 ft but they were too scared to get on the roof to measure the height. They do remember that they have an electrical wire running from their roof to the ground that they were told is 25 ft long and it meets the ground 15 ft away from their house. They also have a mudroom at the front of the house that measures 4 ft deep by 10 ft tall by 8 ft wide that will need new brick
**3)** Pythagorean Theorem (a2 + b2 = c2) will help you determine the height of the house. Your bricks also measure 1 ft long by 0.5 ft tall. With this information. How many bricks should you bring to the house so that you can brick the mudroom, house and addition.
**4)** What changes would you need to make if the electrical wire actually met the ground 10 ft from the house, not 15 as you were told?

**Check for Understanding**
I understand how to solve problems using Pythagorean Theorem
I can translate my findings to help me solve additional problems
I understand the relevance of Pythagorean theorem in real life situations

**Materials**
Recording sheet (attached below), pencil, information sheet below and a calculator

4 ft

25 ft

15 ft

30 ft

15 ft

Record your answers and show your work