PROBLEM-OF-THE-DAY: ALGEBRA 1

WEEK: January 22 to January 25 **DAY:** Tuesday

RISD Objective: Provided the lengths of the legs of a right triangle (including word problems), students will use the Pythagorean Theorem to find the length of the hypotenuse, applying it as necessary.

PROBLEM #87

Mary needs to clean the windows on the second floor of her house. The ladder is placed 4 feet from the house. The windows are 15 feet up. How long does the ladder need to be to reach the window? Round your answer to the nearest tenth if necessary.

MODEL SOLUTION #87

We will use the Pythagorean theorem to find the missing side.

Pythagorean Theorem :

$leg^2 + leg^2 = hyp^2$

$4^2 + 15^2 = h^2$ We replace the variables with numbers

$16 + 225 = h^2$ Now we squared the numbers

$241 = h^2$ Add

$\sqrt{241} = h$ **Square root both sides**

$15.5 \approx h$ Approximate the square root of 241

The ladder needs to be about 15.5 feet long.