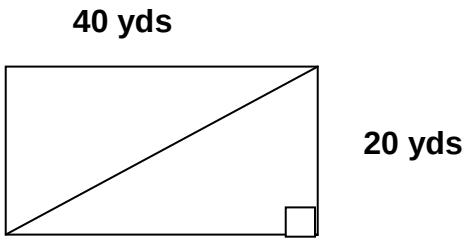
PROBLEM-OF-THE-DAY: ALGEBRA 1

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

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 #89

A rectangular lot is 20 yards by 40 yards. A fence is going to be put up along the diagonal. How much fencing is needed? Round your answer to the nearest tenth if necessary.



MODEL SOLUTION #89

We will use the Pythagorean Theorem to find the measure of the diagonal.

Pythagorean Theorem: leg^2 + leg^2 = hyp ^{2}

$40^2 + 20^2 = h^2$ **by substitution.**

$1600 + 400 = h^2$ **Square values**

$2000 = h^2$ **add values**

$\sqrt{2000} = \sqrt{h^2}$ **Square root both sides**

44. 7 ≈ h

You need about 44.7 yards of fencing.