

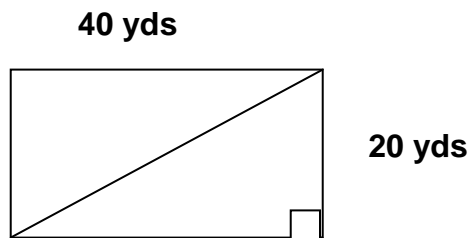
**PROBLEM-OF-THE-DAY: ALGEBRA 1****WEEK:** January 22 to January 25**DAY:** Thursday

**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.

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**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:  $\text{leg}^2 + \text{leg}^2 = \text{hyp}^2$**

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

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

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

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

**$44.7 \approx h$**

**You need about 44.7 yards of fencing.**