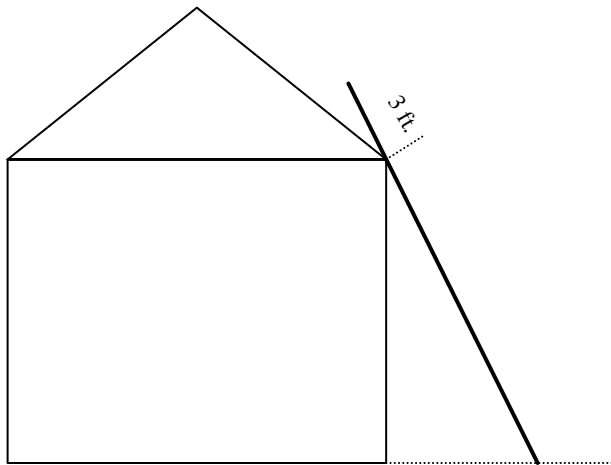


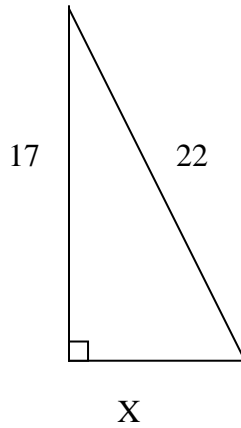
PROBLEM-OF-THE-DAY: ALGEBRA 1**WEEK:** January 28 to February 1**DAY:** Thursday

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

PROBLEM #94

How far away from a 17 ft. tall house would the base of a 25 ft. long ladder be if the ladder extends 3 ft. beyond the roof of the house?



MODEL SOLUTION #94**Pythagorean Theorem:**

$$\text{leg}^2 + \text{leg}^2 = \text{hypotenuse}^2$$

$$x^2 + 17^2 = 22^2 \quad \text{replace values}$$

$$x^2 + 289 = 484 \quad \text{square 17 and 22}$$

$$x^2 = 195 \quad \text{subtract 289 from both sides}$$

$$x \approx 13.96 \quad \text{square root both sides}$$

**The base of the ladder will be 14 feet away from the house.
(13.96)**