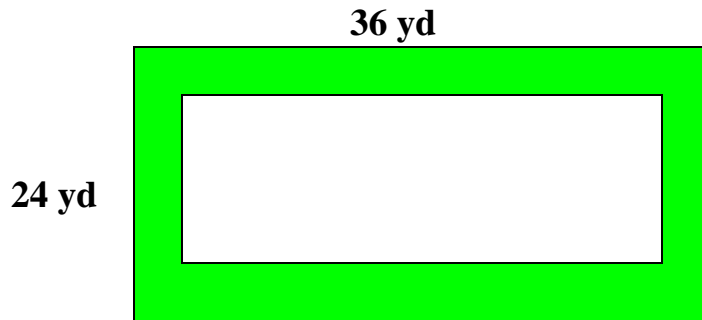


PROBLEM-OF-THE-DAY: ALGEBRA 1**WEEK:** October 15 to October 19**DAY:** Thursday

RISD Objective: Given a figure (including composite figures) and/or a word problem, students will find the area, applying it as necessary.

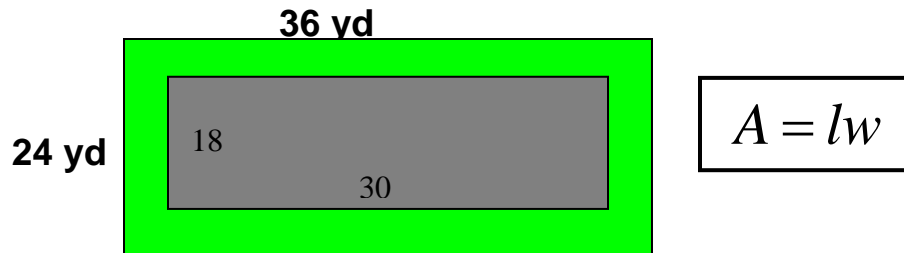
PROBLEM #42

This is a plan for a backyard. A concrete patio is in the inner part. Its dimensions are 30 yd by 18 yd. This patio is to be surrounded by a strip of grass. The outer dimensions are 36 yd by 24 yd. Find the area of the grassed region. Sod costs \$0.65 per square foot. How much will it cost to sod this area?



MODEL SOLUTION #42

First, draw a picture to help you do your math, including all units.



To find the area of the grassed region we must find the difference of the area of the big rectangle and the small rectangle.

Area of big rectangle

$$(24)(36) = 864 \text{ yd}^2$$

Area of small

$$(18)(30) = 540 \text{ yd}^2$$

Now, find the difference:

$$864 - 540 = 324 \text{ yd}^2$$

So, the area of the grassed region is 324 yd^2 .

To be able to find the cost of the sod of the grassed region first we must change square yards to square feet, since the price of sod is given per square foot.

$$9 \text{ ft}^2 = 1 \text{ yd}^2$$

$$324 \text{ yd}^2 \cdot \frac{9 \text{ ft}^2}{1 \text{ yd}^2} = 2,916 \text{ ft}^2$$

Since the sod costs is \$0.65 per square foot, multiply 2,916 by \$0.65.

$$2,916 \cdot 0.65 = \$1,895.40$$

The cost of the sod is \$1,895.40.