

PROBLEM-OF-THE-DAY: ALGEBRA 1

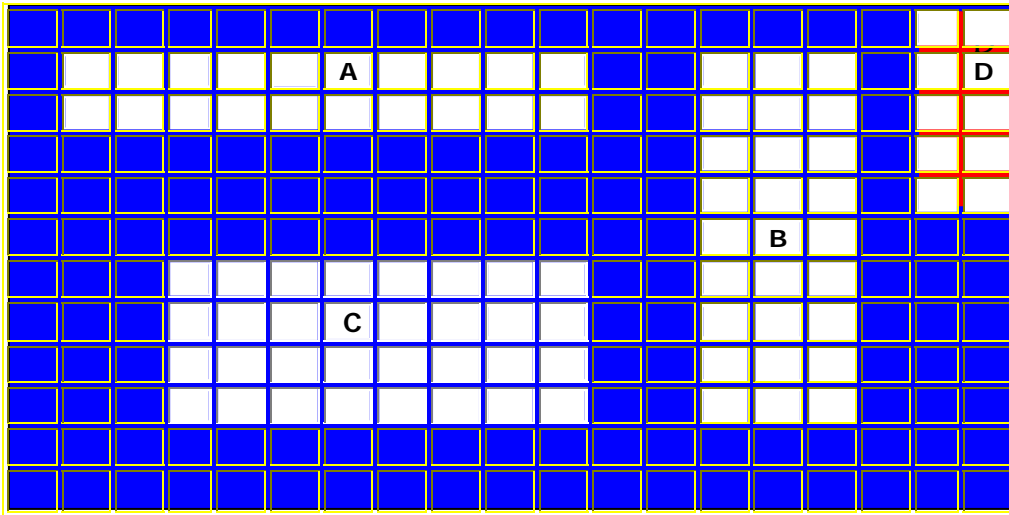
WEEK: October 15 to October 19

DAY: Tuesday

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

PROBLEM #40

Carefully examine each of the four shapes (A, B, C, and D) shown below.



$$A = lw$$

 = 1 square unit

- a) Each rectangle represents the backyard of a house. Which yard has the most land? Show your work.
- b) For which yard would you need to buy the most fencing material to completely enclose the yard? Show and explain your work.

MODEL SOLUTION #40

- a) Since the problem is asking for the most land, we need to figure out the area of each backyard.

Backyards

$$A- (10)(2) = 20 \text{ yd}^2$$

$$B- (9)(3) = 27 \text{ yd}^2$$

$$C- (8)(4) = 32 \text{ yd}^2$$

$$D- (5)(2) = 10 \text{ yd}^2$$

Therefore, yard C has the most land.

- b) Since the question is asking for the fencing material, then we need to figure out the perimeter for each house.

Backyards

$$A- (10 + 10 + 2 + 2) = 24 \text{ yd}$$

$$B- (9 + 9 + 3 + 3) = 24 \text{ yd}$$

$$C- (8 + 8 + 4 + 4) = 24 \text{ yd}$$

$$D- (5 + 5 + 2 + 2) = 14 \text{ yd}$$

Because yards A, B, and C are larger than yard D and have the same perimeter, the owners need to buy the same amount of fencing material to completely enclose the backyards.