Name: : _____ Date: _____

Task: Chris' Garden Dilemma

Chris has a rectangular yard that covers an area of 40 square feet.

1. Draw the yard and label the length and the width.

2. Chris is not sure about how many feet of fencing he will need for the outside of the yard.

   Write an equation that shows how to solve the problem.

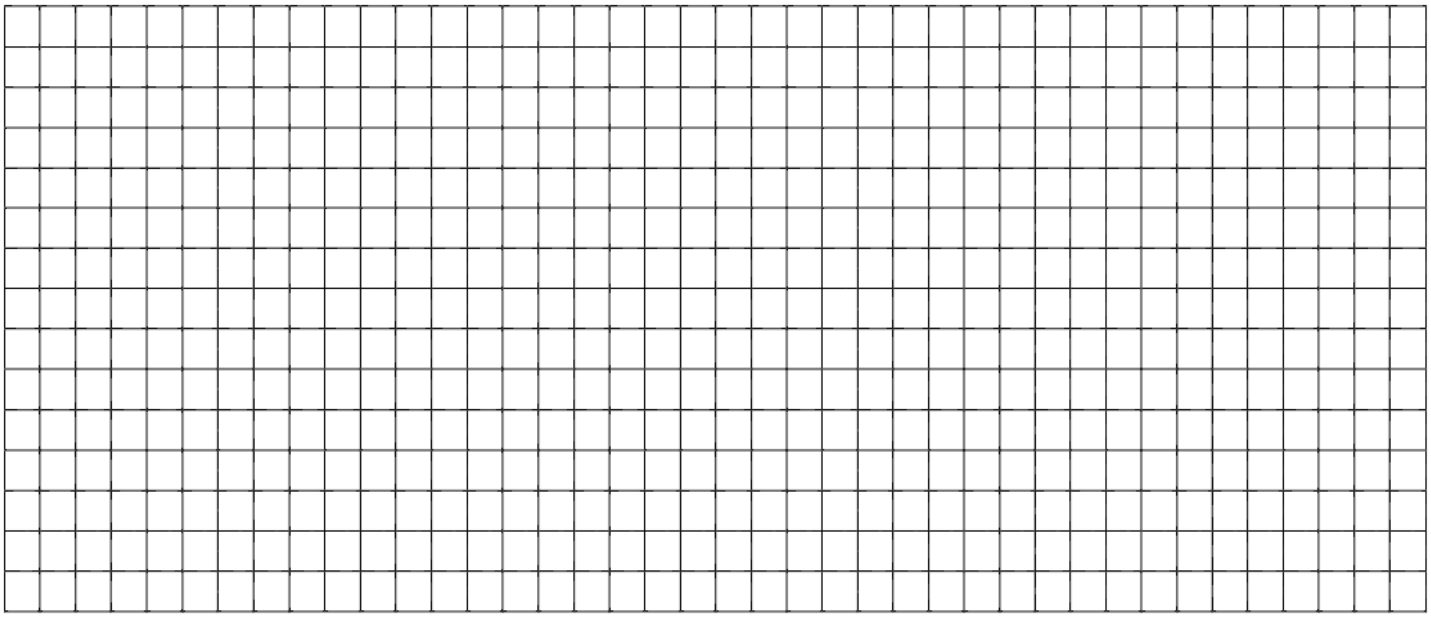
   Equation: _____

   How many feet of fencing would he need? _____feet

3a. Chris wants to create a rectangular rose garden in the yard. He has 24 feet of garden fencing.

Show Chris **two** different ways he could construct the garden with different measurements of area.

Draw and label each garden, including the area.



Garden 1 Area: _____ **Garden 2 Area: _____**

3b. Which garden would you recommend that Chris choose? Explain your answer.

_____

_____

_____

_____

_____

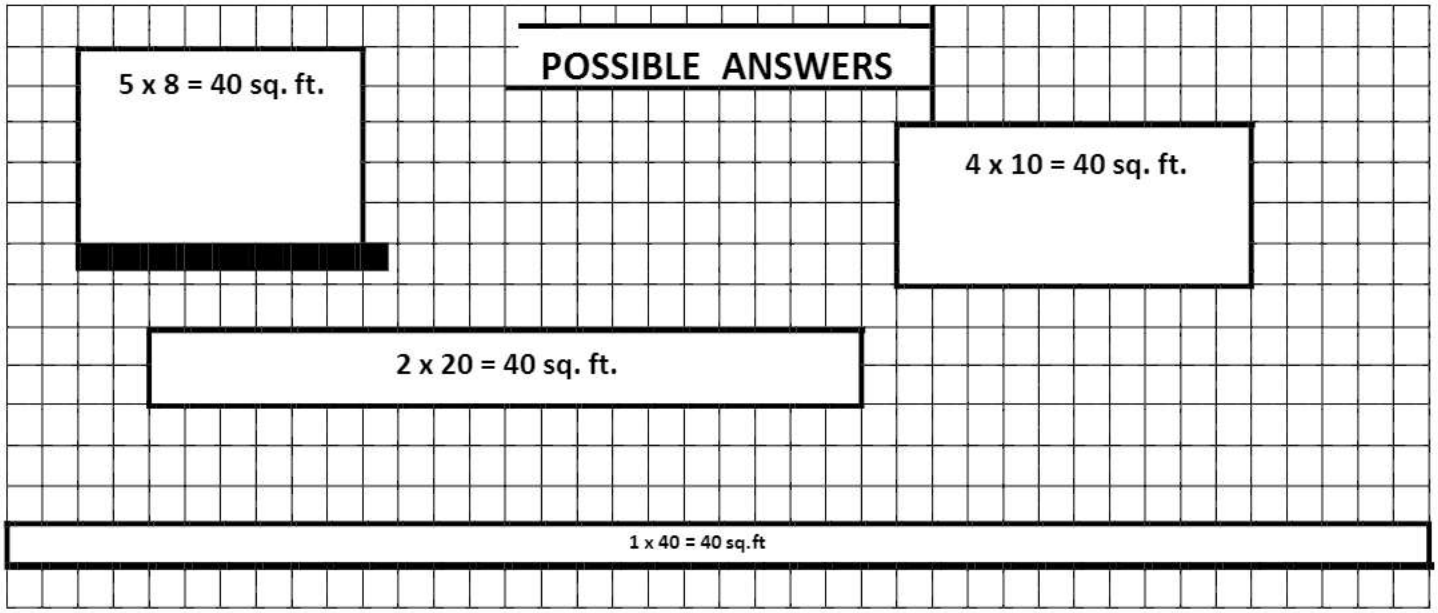
_____

ANSWER KEY

Task: Chris' Garden Dilemma

Chris has a rectangular yard that covers an area of 40 square feet.

1. Draw the yard and label the length and the width.



2. Chris is not sure about how many feet of fencing he will need for the outside of the yard.

   Write an equation that shows how to solve the problem.

   Equation: **Any valid addition equation such as:**

   2 + 2 + 20 + 20 = 44 ft. 8 + 8 + 5 + 5 = 26 ft. 10 + 10 + 4 + 4 = 28 ft.

   Any valid addition/multiplication equation such as:

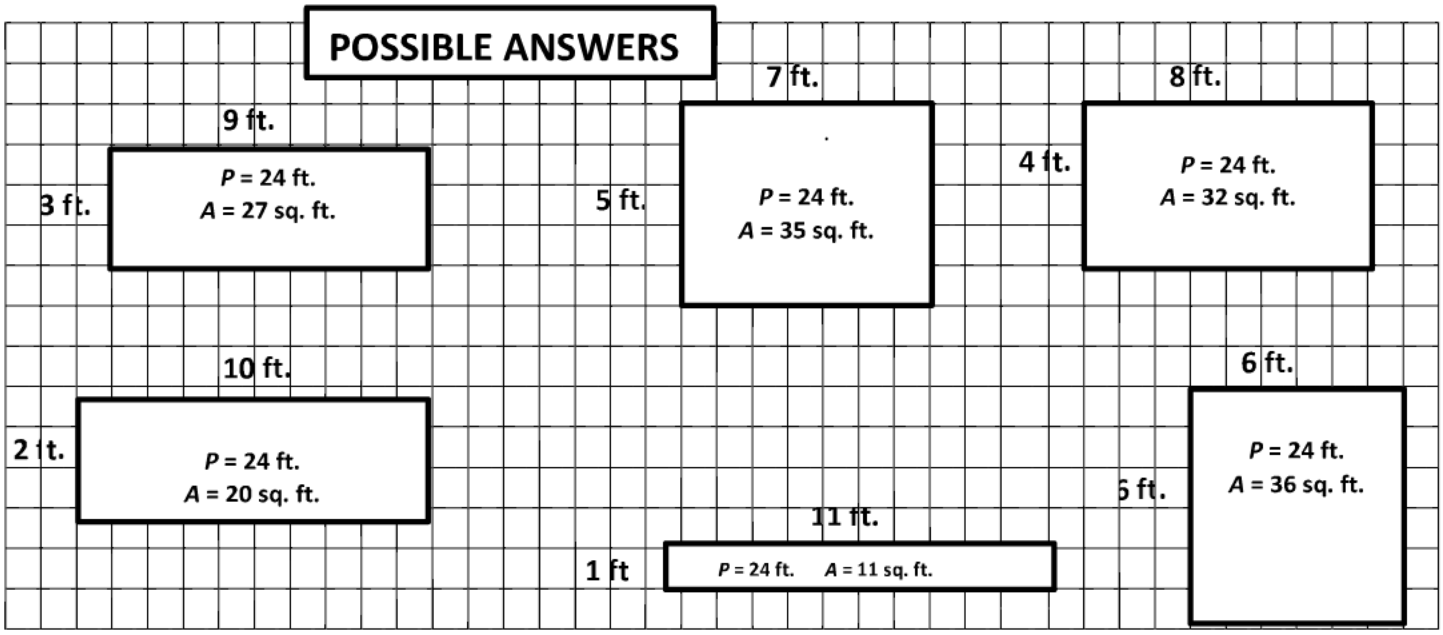
   2(2) + 2(20) = 44 ft. 2(1) +2(40) = 82 ft.

   How many feet of fencing would he need? **26, 28, 44, or 82** feet

3a. Chris wants to create a rectangular rose garden in the yard. He has 24 feet of garden fencing.

Show Chris **two** different ways he could construct the garden with different measurements of area.

Draw and label each garden, including the area.



Garden 1 Area: Any one of the above solutions **Garden 2 Area:** Any other of the above solutions

3b. Which garden would you recommend that Chris choose? Explain your answer.

Possible explanations or any other viable argument:

I chose a garden with the area of 11 square feet, because it would cost me less money to fill it with plants.

OR

I chose a garden with the area of 36 square feet, because I can put more plants in it.

SCORING DETAILS

Teachers,

The next page outlines how to score your students' performance task. Keep the following in mind as you score:

- Each of the four questions (#1, #2, #3a, #3b) will receive 1 to 2 points depending on the answer(s) given. You will total those points and put them in the "Section Points" column (see next page).
- The total of all "Section Points" will determine your students' overall proficiency on the performance task as per the following rubric:

Total # Section Points	Proficiency Score
0-2	Novice (1)
3-6	Nearing Proficient (2)
7-10	Proficient (3)

- If you have any questions about this rubric, or the scoring guide overall, please contact me (Dani Burtsfield). Also, to ensure consistent scoring, I encourage you to take some time during your PLC time to look at your students' work together and discuss how you scored your students' work, both on the 20 question assessment as well as the performance task. Consistent scoring ensures we have like data to compare across the district.

Grade 3: Chris Garden Dilemma Performance Task Scoring Guide

The core elements of performance required by this task are:

- Work with area and perimeter in a real-world context
- Use tiling or multiplication strategies to find the area of rectangles
- Use addition or multiplication strategies to calculate the perimeter of rectangles

Based on the criteria below, the following points will be given.

Common Core Standards	Answer Elements Per Question	Points	Section Points
3.MD.5: Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length of one unit, called a "unit square", is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* unit squares. **3.MD.6**: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units) **3.MD.8**: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Question 1** Draws the yard Labels the yard with the length and width	 1 1	**2**
3.MD.8: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Question 2** Sets up the correct equation for perimeter Gives correct answer and uses the correct unit of measurement	 1 1	**2**
3.MD.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units) **3.MD.7**: Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. **3.MD.8**: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Question 3a** Draws and labels length of width of **two** different gardens with a perimeter of 24 (one point is given for each garden) Computes the area of the **two** different rectangles and labels square units (one point is given for each garden)	 2 2	**4**
3.MD.7: Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. **3.MD.8**: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Question 3b** Provides an explanation that shows sufficient reasoning for his/her choice Uses appropriate mathematical language in his/her response	 1 1	**2**
Total Points		**10**	

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