

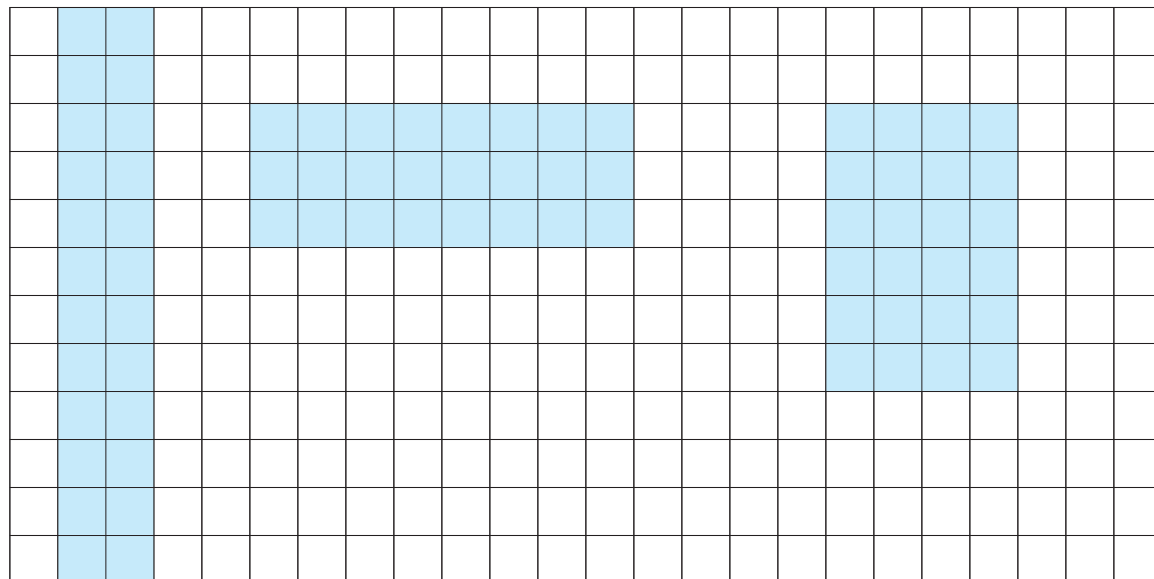
**Building Pens****Your Challenge**

1. You are designing a rectangular pen for your new pet. The area of the floor of the pen must be exactly 24 square feet. Draw rectangles on the **Recording Sheet** to show at least three different ways you could design the pen.
2. You decide not to make the pen rectangular after all. The area of the floor of the pen still needs to be 24 square feet. Design three different pens that you think your pet may like. Draw each pen on the **Recording Sheet**. Choose the one you think is the best design and explain why you choose that pen.



## Building Pens

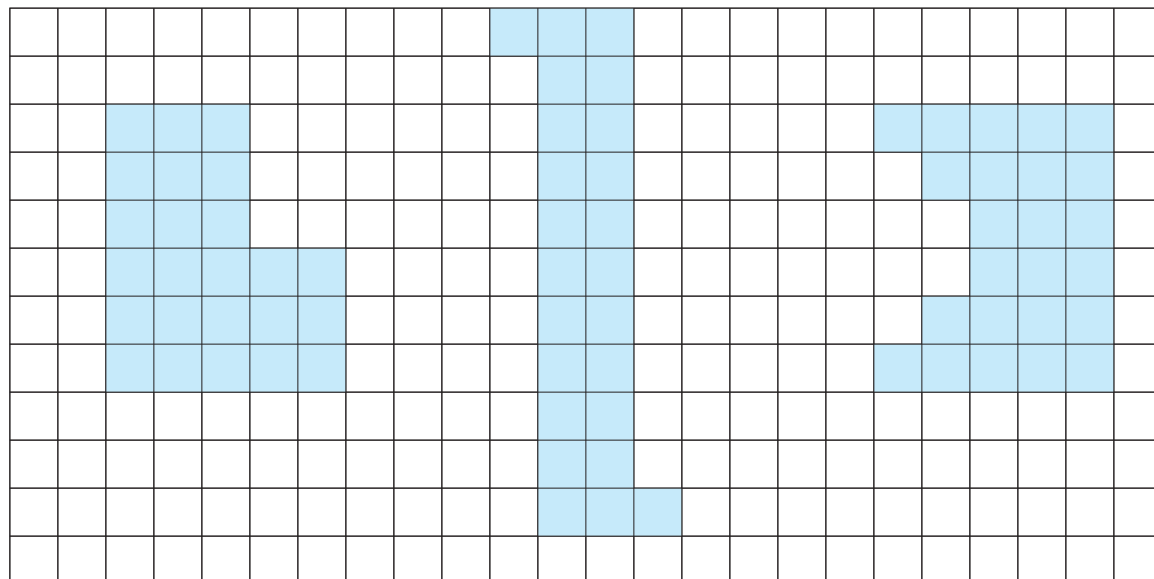
1.



Answers will vary. Three possible designs shown.

Possible arrays include  $1 \times 24$ ,  $2 \times 12$ ,  $3 \times 8$ , and  $4 \times 6$ .

2.



Answers will vary. Three possible designs shown. Check that students' designs have an area of 24 square units and that their explanation of the chosen design makes sense.

**Designing a Garden****Your Challenge**

You are designing a rectangular garden for your backyard.

You must follow these guidelines for your garden:

- The garden must have a total area of at least 80 square feet.
- It must be divided into at least 6 rectangular sections.
- Beans will be planted in the smallest section. The area of this section must be at least 5 square feet.
- Cucumbers will be planted in the largest section. The area of this section must be at least 24 square feet.
- There must be twice as much space for tomatoes as there will be for peppers.
- No two sections of the garden will have the same area.

Draw a picture on the **Recording Sheet** to show your garden design. Include an equation to show the area of each section of your garden.



