

### **COMMUNITY GARDEN**

Your class is going to plant vegetables in a section of the local community garden. The garden manager has provided an area to plant the vegetables as follows:

**The total area for the class to plant vegetables will be a rectangle 40 feet long and 30 feet wide.**

The class has decided to plant four rectangular sections of the class garden with vegetables according to this plan:

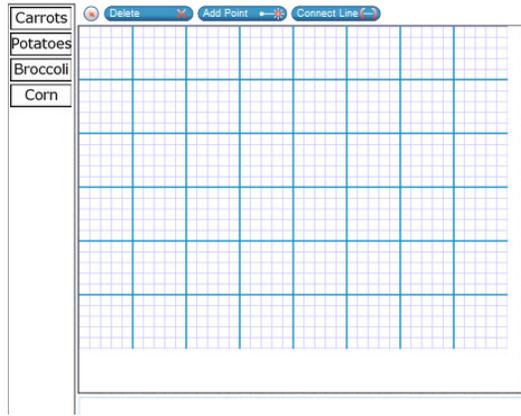
- **$\frac{1}{4}$  of the garden will be planted with carrots.**
- **$\frac{1}{6}$  of the garden will be planted with potatoes.**
- **$\frac{1}{8}$  of the garden will be planted with broccoli.**
- **$\frac{1}{12}$  of the garden will be planted with corn.**

In this task, you will analyze the class plan and determine an alternate plan that will help make the most use of the available area.

1.

Using the connect line tool, draw rectangles on this model of the garden to represent the four rectangular sections for planting vegetables according to the class plan. The garden model is divided into 5 feet by 5 feet sections.

- Use whole number side lengths.
- Each square on the model represents 1 square foot.
- Drag the correct label that shows the vegetable for each section.



### Scoring

For this item, a full-credit response (1 point) includes

- carrots: 10 x 30 rectangle; potatoes: 5 x 40 rectangle; broccoli: 5 x 30 rectangle; corn: 4 x 25 rectangle

OR

- any four areas that are correct.

For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

2.

Think about the class plan for the garden plot. What fraction of the garden plot will be left over after the class plants their vegetables?

← → ↶ ↷ ✖

1	2	3	+	-	×	÷
4	5	6	<	>	=	≠
7	8	9				
0	.					

### Scoring

For this item, a full-credit response (1 point) includes

- $\frac{3}{8}$
- OR
- any equivalent fraction.

For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

3.

Your class has decided to plant potatoes in the unused portion of the garden plot.

**Part A**

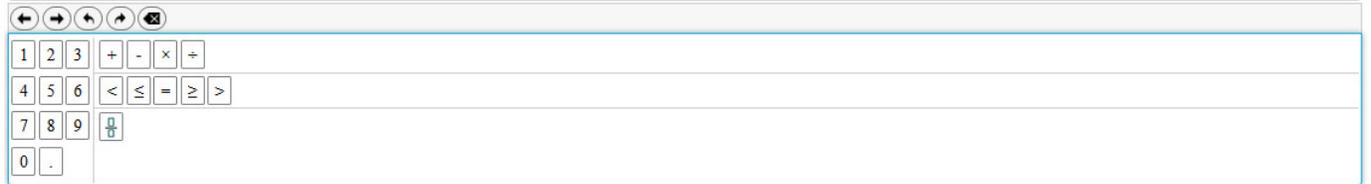
What total fraction of the class garden will be planted with potatoes?  
Remember that  $\frac{1}{6}$  of the garden is already planned for potatoes.

Enter your response in the first response box.

**Part B**

How many total square feet of the class garden plot will be planted with potatoes?

Enter your response in the second response box.

The image shows a digital calculator interface. It features a grid of buttons for digits 1-9, 0, and a decimal point. Above the grid are buttons for basic arithmetic operations: addition (+), subtraction (-), multiplication (x), and division (÷). There are also buttons for less than (<), less than or equal to (≤), equals (=), greater than or equal to (≥), and greater than (>). At the top of the calculator are navigation buttons: left arrow, right arrow, undo, redo, and a clear button (X).

**Scoring**

For this item, a full-credit response (2 points) includes

- $\frac{13}{24}$   
AND
- 650

For this item, a partial-credit response (1 point) includes

- $\frac{13}{24}$   
OR
- 650 or total square feet consistent with an error in Part A

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

4.

Using the new plan with more potatoes, write an equation to show that the **total area** of the class's garden is used to grow vegetables. Make sure the equation shows that the sum of the areas, in square feet, of each section equals the total area of the class's garden.

- Carrots
- Potatoes
- Broccoli
- Corn

The image shows a digital math input interface. At the top is a large empty text box. Below it is a toolbar with navigation icons (left, right, undo, redo, clear) and a grid of input fields. The grid is organized as follows:

1	2	3	+	-	×	÷	
4	5	6	<	≤	=	≥	>
7	8	9	$\frac{\square}{\square}$	$\square^{\square}$	( )		
0	.						

### Scoring

For this item, a full-credit response (2 points) includes

- writing the correct sum:  $300 + 650 + 150 + 100$   
AND
- writing the correct sum as an equation.

For example,

- $300 + 650 + 150 + 100 = 1200$

For this item, a partial-credit response (1 point) includes

- writing the correct sum without using an equation  
OR
- writing an incorrect sum, but using an equation.

For example,

- $300 + 650 + 150 + 100$   
OR
- $200 + 300 + 600 = 1100$

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.