Community Garden—5th Grade SBAC Math Performance Task

Your class is going to plan vegetables in a section of the local community gardent. 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 plan 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.
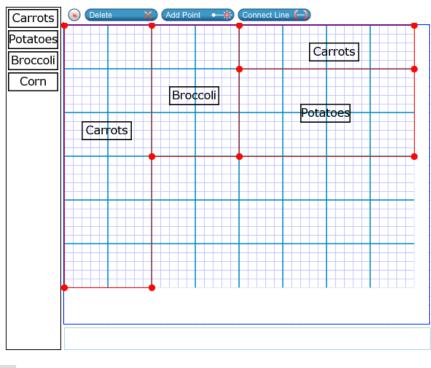
1

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.

For this item, a full-credit response (1 pt.) 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:
Carrots: 300 sq ft
Potatoes: 200 sq ft
Broccoli: 150 sq ft
Corn: 100 sq ft

For this item, a no-credit response (0 pts) 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?

$$\frac{3}{8}$$

For this item, a full-credit response (1 pt) includes: $\frac{3}{8}$ OR any equivalent fraction

For this item, a no-credit response (0 pts) 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 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.

$\frac{13}{24}$

650

For this item, a full-credit response (2 pts) includes: $\frac{13}{24}$ AND 650.

For this item, a partial-credit response (1 pt) 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 pts) includes none of the features of a full- or partial-credit response.

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

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

For this item, a full-credit response (2 pts) includes:
- Writing the correct sum: 1200 AND Writing the correct sum as an equation.
- For example, 300 + 650 + 150 + 100 = 1200

For this item, a partial-credit response (1 pt) 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 300 + 200 + 150 + 100 = 750

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