Analyzing Patterns Using Tables and Graphs

CCSS: 6.NS.C.8: Solve real-world and mathematical problems by graphing points in ... the coordinate plane ... . **6.EE.C.9:** … Analyze the relationship between the dependent and independent variables using graphs and tables ... .

Launch

© MP4, MP7

Each time you open a box, you see two more boxes. There are seven boxes in all.

What is the minimum number of boxes you need to open to see all seven boxes? Explain your reasoning.
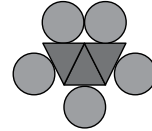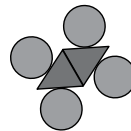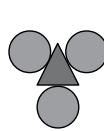

THIS END UP
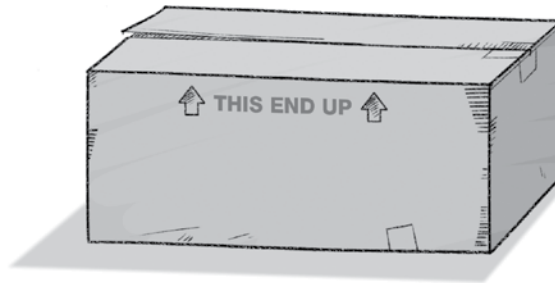
Reflect What are the dependent and independent variables in the problem?

Got It?

Got It (1 of 2)

Draw the fourth figure in the pattern. After you draw the fourth figure, complete the table.

Number of Triangles	Number of Circles
1	3
2	4
3	5

Got It (2 of 2)

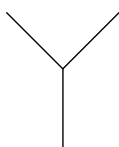Figures 1, 2, and 3 show a pattern. Describe why Figure 4 is *not* the fourth tree in the pattern.

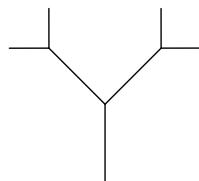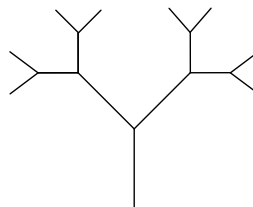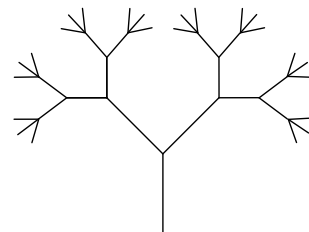**Figure 1**   **Figure 2**   **Figure 3**   **Figure 4**

Got It?

PART 2 Got It

Use the table to graph the relationship between the x-column and the y-column.

x	y
0	4
1	5
2	6
3	7
4	8

PART 3 Got It

The graph shows the relationship between the speed of a car and the car's fuel economy. Name a point that falls on the graph.
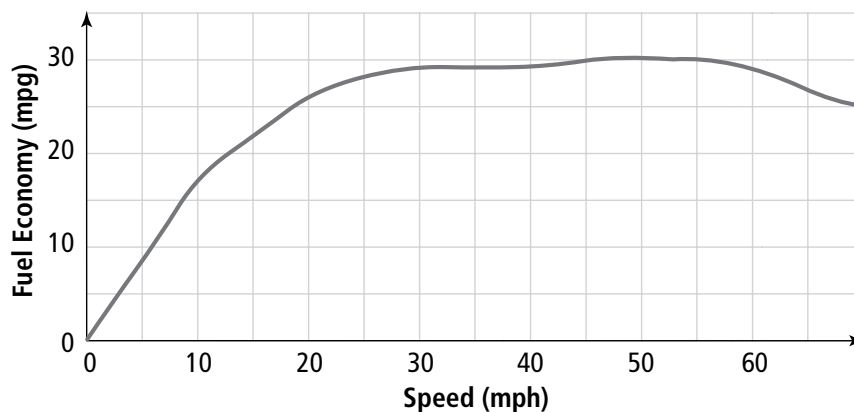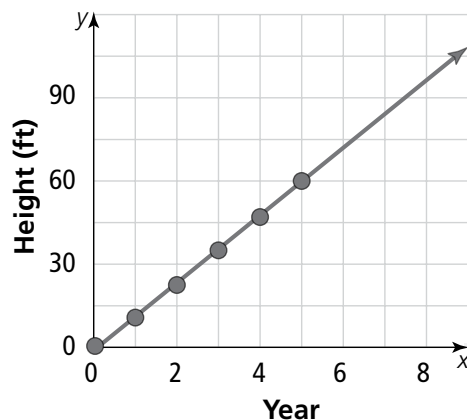
Got It?

A kapok tree is a very tall rainforest tree. Assume that a kapok tree grows 12 feet each year. Complete the table and use the points to graph the growth of the kapok tree.

Year	Height (ft)
0	0
1	12
2	24
3	
4	
5	

PART 4 Got It (2 of 2)

Use the graph to predict how tall a kapok tree will be in Year 8.

Close and Check

Focus Question

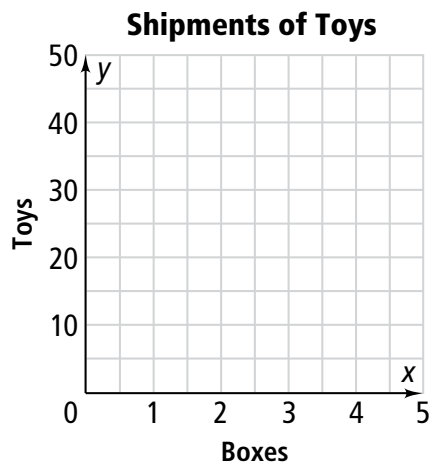How do you find a pattern in a table?

Do you know HOW?

1. Toys are shipped to a store by the box. Determine the pattern and complete the table to show how many toys are delivered for each number of boxes shipped.

Boxes	0	2		
Toys	0	20		

2. Use the table above to graph the relationship between the number of boxes shipped and the number of toys delivered.

Shipments of Toys

Do you UNDERSTAND?

3. Writing The data for each 10-year census for the past 100 years is graphed. How can the graph be used to estimate the population between each census?

4. Error Analysis A classmate says the *y* column increases by 12 each time, so the next point (*x*, *y*) is (6, 42). Explain his mistake and tell what he should have written.

x	1	3	5	**6**
y	6	18	30	**42**