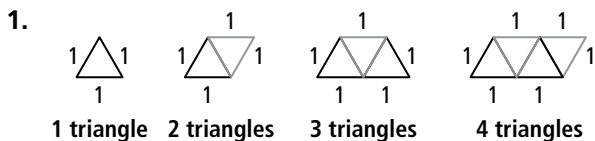


Practice

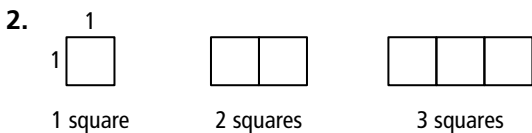
Form G

Patterns and Linear Functions

For each diagram, find the relationship between the number of shapes and the perimeter of the figure they form. Represent this relationship using a table, words, an equation, and a graph.



| | | | | | | | | |
|-----------|---|---|---|---|---|---|----|-----|
| Triangles | 1 | 2 | 3 | 4 | 5 | 6 | | n |
| Perimeter | 3 | 4 | 5 | | | | 12 | |



| | | | | | | | | |
|-----------|---|---|---|---|---|---|----|-----|
| Squares | 1 | 2 | 3 | 4 | 5 | 6 | | n |
| Perimeter | 4 | 6 | 8 | | | | 22 | |

For each table, determine whether the relationship is a function. Then represent the relationship using words, an equation, and a graph.

3.

| | |
|-----|-----|
| x | y |
| 0 | 1 |
| 1 | 3 |
| 2 | 5 |
| 3 | 7 |

4.

| | |
|-----|-----|
| x | y |
| 0 | 6 |
| 1 | 7 |
| 2 | 8 |
| 3 | 9 |

Practice (continued)

Form G

Patterns and Linear Functions

For each table, determine whether the relationship is a function. Then represent the relationship using words, an equation, and a graph.

5. **Distance Traveled**

| Time (h) | Distance (mi) |
|----------|---------------|
| 0 | 0 |
| 1 | 55 |
| 2 | 110 |
| 3 | 165 |

6. **Calories Burned**

| Minutes (min) | Calories (C) |
|---------------|--------------|
| 0 | 0 |
| 10 | 50 |
| 20 | 100 |
| 30 | 150 |

7. **Reasoning** Graph the set of ordered pairs $(0, 2)$, $(1, 4)$, $(2, 6)$, $(3, 8)$. Determine whether the relationship is a linear function. Explain how you know.

8. You can make a bubble solution by mixing 1 cup of liquid soap with 4 cups of water. Represent the relationship between the cups of liquid soap and the cups of bubble solution made using a table, an equation, and a graph. Is the amount of bubble solution made a function of the amount of liquid soap used? Explain.