Tell whether the relation is a function.
1. (20, 3), (22, 4), (24, 3), (26, -1)
2. (50, 5), (50, -2), (55, 6), (60, 10)

Find the slope of the line passing through the given points. Then tell whether the line rises, falls, is horizontal, or is vertical.
3. (10, 2), (15, 2)
4. (-5, 4), (-5, 1)
5. (-2, 5), (3, 15)

Write an equation of the line that passes through the given point and satisfies the given condition.
6. (10, 5) parallel to \( y = \frac{1}{5}x + 2 \)
7. (10, 5) perpendicular to \( y = \frac{1}{5}x + 2 \)

The variables \( x \) and \( y \) vary directly. Write an equation that relates \( x \) and \( y \). Then find \( y \) when \( x = 10 \).
8. \( x = 2, y = 7 \)
9. \( x = -6, y = 12 \)
10. \( x = 20, y = -15 \)

Draw a scatter plot of the data. Then approximate the equation of the best-fitting line for the data.

<table>
<thead>
<tr>
<th>( x )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>( y )</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>3.5</td>
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</tr>
</thead>
<tbody>
<tr>
<td>( y )</td>
<td>-1</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>

13. You owe your father $200 that you spent to upgrade your computer. You will pay him back at $10 per month. Write an equation to model how much money you still owe after \( m \) months. Then find out how much money you owe in 12 months.

14. You are using a sprinkler to water your lawn. The amount of water varies directly with the amount of time it is used. The sprinkler can spray 2.5 gallons in 0.5 minutes. Write an equation for the amount of water sprayed on the lawn as a function of time. Then how much water has been sprayed in 30 minutes?

Graph the equations.

15. \( y = 2 \)
16. \( 2x + 4y = 5 \)
17. \( 2x - 3y = 6 \)
18. \( y = \frac{1}{2}x + 1 \)

Graph the inequalities.

19. \( y \geq |x| - 2 \)
20. \( x + 3y > 6 \)
21. \( y < -\frac{1}{2}x + 2 \)
1. Function
2. Not a function
3. 0, Horizontal
4. No slope, Vertical
5. 2, Rises
6. \( y = \frac{1}{5}x + 3 \)
7. \( y = -5x + 55 \)
8. \( y = \frac{7}{2}x; 35 \)
9. \( y = -2x; -20 \)
10. \( y = -\frac{3}{4}x; \frac{15}{2} \)
11. \( y = \frac{1}{2}x + 1 \)
12. \( y = 3x - 4 \)
13. \( y = 200 - 10m; $80 \)
14. \( y = 5t; 150 \text{ gallons} \)