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LEsson 18  Representing Data

Numerical relationships can be represented with words, equations, tables, and graphs.

Salmon is on sale for $8.00 per pound. The cost for \( x \) pounds is \( y \) dollars, where \( y = 8x \).

<table>
<thead>
<tr>
<th>( x )</th>
<th>( y )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>32</td>
</tr>
</tbody>
</table>

A straight line on a graph represents a steady rate of increase or decrease.

Read each problem. Circle the letter of the best answer.

1. Ron earns \( w \) dollars per hour working at a restaurant. Which amount in dollars can be described by the expression \( 8(w + 3) \)?
   - A the amount Ron earns working 8 hours
   - B the amount Ron earns working 8 hours if he gets a $3 tip
   - C the amount Ron earns working 8 hours per day for 3 days
   - D the amount Ron earns working 8 hours if he gets a $3 per hour raise

If Ron’s hourly wage is increased from \( w \) to \( w + 3 \) and he works 8 hours, the amount in dollars he will earn is \( 8(w + 3) \). The correct answer is D.

2. Which graph could represent a balloon that rises quickly at first, then slows?
   - A
   - B
   - C
   - D

3. Which equation describes the line?
   - A \( y = x - 1 \)
   - B \( y = x + 4 \)
   - C \( y = \frac{1}{2}x + 2 \)
   - D \( y = \frac{1}{2}x + 4 \)

4. If \( x \) = time and \( y \) = speed, which situation could be described by the graph?
   - A Kira was walking at a certain speed, then began to slow down.
   - B Kira was walking at a certain speed, then began to speed up.
   - C Kira was standing still, then began to walk at a steady pace.
   - D Kira was standing still, then began to walk, gradually speeding up.
Read each problem. Write your answers.

5 Look at this graph.

A Describe a situation that could be represented by this graph.

________________________________________________
________________________________________________

B Could the graph represent a situation where something's value is changing at a steady rate? Explain why or why not.

___________________________________________________________________________________
___________________________________________________________________________________

6 Tatiana earns $10 per hour planting trees, plus a $40 bonus each day.

A Write an equation to show the relationship between \(x\), the number of hours she works on a certain day, and \(y\), the amount in dollars she earns that day.

Answer: __________________________________

B Use your equation to complete this table of values.

<table>
<thead>
<tr>
<th>(x)</th>
<th>(y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>8</td>
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<tr>
<td>10</td>
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</tbody>
</table>

C Graph your equation on the plane below.