Tell whether the given equation has the ordered pair as a solution.

1. \( x + 4 = 2y \) \((-2, 1)\)
2. \( 5x + 8 = -x + y \) \((2, 20)\)

Use a table, an equation, and a graph to represent each relationship.

3. It takes 2 hours for Shane to travel 10 km at a constant speed.

4. The cost of a brand new car is $16,000, and its value decreases every year by 10%.
Predict the next figure in each sequence.

5.

i.  

ii.  

iii.  

iv.  

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**Patterns, Equations, and Graphs** Exit Quiz

**ANSWER**

Tell whether the given equation has the ordered pair as a solution.

1. \( x + 4 = 2y \)  \((-2, 1)\)

\[
\begin{align*}
x + 4 &= 2y \\
-2 + 4 &= 2(1) \\
2 &= 2
\end{align*}
\]

2. \( 5x + 8 = -x + y \)  \((2, 20)\)

\[
\begin{align*}
5(2) + 8 &= -(2) + 20 \\
10 + 8 &= -2 + 20 \\
18 &= 18
\end{align*}
\]

Use a table, an equation, and a graph to represent each relationship.

3. It takes 2 hours for Shane to travel 10 km at a constant speed.

\[
d = \frac{10 \text{ km}}{2 \text{ hours}}
\]

Where: \( d = \) distance traveled at \( t \) time

\( t = \) given time from 0 to 2 hours

<table>
<thead>
<tr>
<th>( t ) (hour)</th>
<th>( d ) (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0.25</td>
<td>1.25</td>
</tr>
<tr>
<td>0.50</td>
<td>2.50</td>
</tr>
<tr>
<td>0.75</td>
<td>3.75</td>
</tr>
<tr>
<td>1.00</td>
<td>5.00</td>
</tr>
<tr>
<td>1.25</td>
<td>6.25</td>
</tr>
<tr>
<td>1.50</td>
<td>7.50</td>
</tr>
<tr>
<td>1.75</td>
<td>8.75</td>
</tr>
<tr>
<td>2.00</td>
<td>10.00</td>
</tr>
</tbody>
</table>

**Time**

![Graph showing distance over time](image)

**Distance**
4. The cost of a brand new car is $16,000, and its value decreases every year by $1,600.

\[ c = 16000 - x \left( \frac{1600}{\text{year}} \right) \]

Where: \( c \) = cost of the car after \( x \) number of years
\( x \) = number of year passed

<table>
<thead>
<tr>
<th>( x ) (year)</th>
<th>( c ) ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16,000</td>
</tr>
<tr>
<td>1</td>
<td>14,400</td>
</tr>
<tr>
<td>2</td>
<td>12,800</td>
</tr>
<tr>
<td>3</td>
<td>11,200</td>
</tr>
<tr>
<td>4</td>
<td>9,600</td>
</tr>
<tr>
<td>5</td>
<td>8,000</td>
</tr>
<tr>
<td>6</td>
<td>6,400</td>
</tr>
<tr>
<td>7</td>
<td>4,800</td>
</tr>
<tr>
<td>8</td>
<td>3,200</td>
</tr>
</tbody>
</table>

Cost \times 1000

6. Predict the next figure in each sequence.

i.  
ii.  
iii.  
iv.