Lesson 6 Homework Practice

Write Linear Equations

Write an equation in point-slope form and slope-intercept form for each line.

1. passes through \((-5, 6)\), slope = 3
   \[ y - 6 = 3(x + 5) \]
   \[ y = 3x + 21 \]

2. passes through \((6, -6)\), slope = 5
   \[ y + 6 = 5(x - 6) \]
   \[ y = 5x - 36 \]

3. passes through \((0, 1)\) and \((2, 5)\)
   \[ y - 5 = 2(x - 2) \]
   \[ y = 2x + 1 \]

4. passes through \((-5, 9)\) and \((1, 3)\)
   \[ y - 9 = -1(x + 5) \]
   \[ y = -x + 4 \]

5. passes through \((1, -1)\) and \((2, 0)\)
   \[ y + 1 = 1(x - 1) \]
   \[ y = x - 2 \]

6. passes through \((-3, -5)\), slope = 2
   \[ y + 5 = 2(x + 3) \]
   \[ y = 2x + 1 \]

Write the point-slope form of an equation for each line graphed.

7. \[ y - 1 = 4(x) \]

8. \[ y = -1(x + 3) \]

9. TEMPERATURE The table shows the temperature at certain hours. Assuming the temperature change is linear, write an equation in point-slope form to represent the temperature \(y\) at \(x\) hour.
   \[ y - 35 = 4(x - 1) \]

<table>
<thead>
<tr>
<th>Hour</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35</td>
</tr>
<tr>
<td>2</td>
<td>39</td>
</tr>
</tbody>
</table>

10. SPEED After 2 hours, a car travels 70 miles. After 2.25 hours in the same trip, the car travels 78.75 miles. Write an equation in point-slope form to represent the distance \(y\) of the car after \(x\) hours.
    \[ y - 70 = 35(x - 2) \]