Parallel and Perpendicular Lines

<table>
<thead>
<tr>
<th>Parallel Lines</th>
<th>Perpendicular Lines</th>
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</thead>
<tbody>
<tr>
<td>![Parallel Lines Image]</td>
<td>![Perpendicular Lines Image]</td>
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<tr>
<td>Parallel slopes are ________________</td>
<td>Perpendicular slopes are ________________</td>
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</tbody>
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Find the equations of the lines passing through the given points parallel to the given line. Write answers in slope-intercept form when possible.

1. Through (−3,1); parallel to \( y = 2x - 1 \)

2. Through (2,5); parallel to \( y = -\frac{2}{5}x + 14 \)

1. Find the slope of the given line.
2. Use the slope and the given point to write equation of line. \( y - y_1 = m(x - x_1) \)
3. Write answers in slope-intercept form when possible.
3. Through (−4, −9); parallel to \( y = 2 \)
4. Through (7, −2); parallel to \( x = 8 \)

Find the equations of the lines passing through the given points \( \textit{perpendicular} \) to the given line. Write answers in slope-intercept form when possible.

5. Through (2, 5); perpendicular to \( y = −\frac{1}{4}x − 5 \)

6. Through (−7, 2); perpendicular to \( y = \frac{3}{5}x − 4 \)

7. Through (−4, −9); perpendicular to \( y = 8 \)
8. Through (7, −2); perpendicular to \( x = −3 \)