

Name: Key

Date: \_\_\_\_\_

Determine if the following equations are parallel, perpendicular, or neither

<p>1. <math>y = \frac{1}{2}x + 4</math> <math>y = \frac{1}{2}x - 5</math>  Parallel</p>	<p>2. <math>y = 2x + 7</math> <math>y = -2x + 3</math>  Neither</p>	<p>3. <math>y = \frac{-1}{4}x</math> <math>y = 4x - 3</math>  Perpendicular</p>	<p>4. <math>2x + 4y = 8</math> <math>3x + 6y = -6</math> <math>4y = -2x + 8</math> <math>y = \frac{-1}{2}x + 2</math>  <math>6y = -3x - 6</math> <math>y = \frac{-1}{2}x - 1</math>  Parallel</p>
<p>5. <math>3x + y = 5</math> <math>x - 3y = -3</math> <math>y = -3x + 5</math> <math>-3y = -x - 3</math> <math>y = \frac{1}{3}x + 1</math>  Perpendicular</p>	<p>6. <math>8x + y = 7</math> <math>8x - y = 4</math> <math>y = -8x + 7</math> <math>-y = -8x + 4</math> <math>y = 8x - 4</math>  Neither</p>	<p>7. <math>y = \frac{1}{4}x + 3</math> <math>2x + 8y = -8</math> <math>8y = -2x - 8</math> <math>y = \frac{-1}{4}x - 1</math>  Neither</p>	<p>8. <math>x - 2y = -4</math> <math>y = \frac{1}{2}x + 6</math> <math>-2y = -x - 4</math> <math>y = \frac{1}{2}x + 2</math>  Parallel</p>

Write the equation of a line parallel and a line perpendicular to the given equation.

<p>9. <math>y = \frac{1}{3}x + 1</math> (-3, 4) <math>m = \frac{1}{3}</math> <math>4 = \frac{1}{3}(-3) + b</math> <math>4 = -1 + b</math> <math>5 = b</math> <math>y = \frac{1}{3}x + 5</math></p>	<p><math>m = -3</math> <math>4 = -3(-3) + b</math> <math>-5 = b</math> <math>y = -3x - 5</math></p>	<p>10. <math>y = 4x + 2</math> (-8, -3) <math>m = 4</math> <math>-3 = 4(-8) + b</math> <math>-3 = -32 + b</math> <math>29 = b</math> <math>y = 4x + 29</math></p>	<p><math>m = \frac{1}{4}</math> <math>-3 = \frac{1}{4}(-8) + b</math> <math>-3 = 2 + b</math> <math>-5 = b</math> <math>y = \frac{1}{4}x - 5</math></p>
<p>11. <math>y = \frac{-2}{3}x + 1</math> (-6, 1) <math>m = -\frac{2}{3}</math> <math>1 = \frac{-2}{3}(-6) + b</math> <math>-3 = b</math> <math>y = \frac{-2}{3}x - 3</math></p>	<p><math>m = \frac{3}{2}</math> <math>1 = \frac{3}{2}(-6) + b</math> <math>1 = -9 + b</math> <math>b = 10</math> <math>y = \frac{3}{2}x + 10</math></p>	<p>12. <math>y = \frac{-5}{2}x - 3</math> (10, -3) <math>m = -\frac{5}{2}</math> <math>-3 = \frac{-5}{2}(10) + b</math> <math>-3 = -25 + b</math> <math>22 = b</math> <math>y = \frac{-5}{2}x + 22</math></p>	<p><math>m = \frac{2}{5}</math> <math>-3 = \frac{2}{5}(10) + b</math> <math>-3 = 4 + b</math> <math>-7 = b</math> <math>y = \frac{2}{5}x - 7</math></p>