Warm Up...



Date:

Today's Goal:

- KWBAT write the equation of a line that contains a given point and is parallel to or perpendicular to a given line
- WHY? This lesson covers Algebra standards A.2E and A.2F. We already know quite a few things about parallel lines (they never intersect and they have the same slope!) but today we will be able to write equations of lines that are parallel or perpendicular

Important Info:



Examples:

P-021	
1. Write in slope-intercept form the equation of the	2. Write in slope-intercept form the equation of the
line that is <u>parallel</u> to the line $y = 2x - 3$ and passes	line that is <u>perpendicular</u> to the line $y = -4x + 10$
through the point $(5, 4)$.	and passes through the point $(7, 2)$.

Pd:

Find the answer for each exercise in the adjacent answer columns. Write the letter of the exercise in the box containing the number of the answer. Part 1. Write the equation of the line indicated. U Equation of \overrightarrow{OD} I Equation of \overrightarrow{OD} I Equation of \overrightarrow{OD} I Equation of \overrightarrow{OD} Part 2. Write the slope of a line parallel to the given line. T $y = \frac{7}{4}x - 2$ U $y = 8 - 3x$ I $y = -\frac{5}{4}x + 1$ H $y = 6x + 11$ C $2x + 5y = 40$ Part 4. Write an equation for the line that is parallel to the given line. T $y = -\frac{1}{2}x + 5$ I $y = -\frac{1}{2}x + 5$ I $y = -\frac{1}{2}x + 5$ I $y = -\frac{1}{2}x + 1$ I $y = -\frac{1}{2}x - 2$ I $y = -\frac{1}{2}x - 2$ I $y = -\frac{1}{2}x - 2$ I $y = 8 - 3x$ I $y = -\frac{5}{4}x + 1$ H $y = 6x + 11$ S $\frac{5}{4}$ I $y = -\frac{5}{4}x + 1$ I $y = -4x - 7$ R $-5x + 3y = 6; (-3, -8)$ Part 5. Write an equation for the line that is parallel to the given line ine and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ Part 5. Write an equation for the line that is parallel to the given line ine and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ Part 5. Write an equation for the line that is parallel to the given line ine and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ Part 5. Write an equation for the line that is parallel to the given line ine and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ Part 5. Write an equation for the line that is perpendicular to the given line and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ Part 5. Write an equation for the line that is perpendicular to the given line ine and that contains the given point. W $y = -\frac{1}{3}x + 4; (2, 5)$ P $y = \frac{1}{3}x + 2y = -10; (-9, -2)$ H $y = -\frac{1}{5}x + 5$ I $y = -\frac{1}{5}x$		N	ha	at	·I	Die	d 1	the	8 F	Pol	ice	sma	an	Te	11 1	The	B	urg	la	r iI	1 t	he	Ba	th	roc)m?	
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Part 5. Write an equation for the line that is perpendicular to the given line and that contains the given point. Part 5 Answers U $y = -\frac{1}{3}x + 4; (2, 5)$ If $y = -\frac{5}{2}x + 7$ B y = $\frac{2}{3}x + 4$ T $y = \frac{2}{5}x - 3; (2, -3)$ If $y = -\frac{5}{2}x + 7$ P y = $\frac{2}{5}x - 3; (2, -3)$ If $y = -\frac{5}{2}x + 7$ S $y = \frac{2}{3}x + 4$ T $y = \frac{2}{5}x - 3; (2, -3)$ If $y = -4x - 5$ If $y = 3x - 5$ P $y = \frac{x}{4} + 15; (-3, 7)$ If $y = -\frac{1}{5}x + 5$ If $y = -\frac{5}{2}x + 2$ M 3x + 2y = -10; (-9, -2) If $y = -\frac{1}{5}x + 5$ If $y = -\frac{5}{2}x + 2$ M 3x + 2y = -10; (-9, -2) If $y = -4x - 3$ T $y = 3x - 1$ N 5x - y = 16; (0, 0) If $y = -\frac{1}{5}x$ 5 $y = \frac{2}{3}x + 6$ I If $y = -\frac{1}{5}x$ 5 $y = \frac{2}{3}x + 6$ I I If $y = -\frac{1}{5}x$ 5 $y = \frac{2}{3}x + 6$ I I If $y = -\frac{1}{5}x$ 5 $y = \frac{2}{3}x + 6$ I <th co<="" td=""><th>P</th><td><i>x</i></td><td>+</td><td>y</td><td>=</td><td>7;</td><td>(-</td><td>4, 0</td><td>)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td>y =</td><td>3<i>x</i></td><td>- 2</td><td>;</td><td>l</td><td>4 į</td><td>J =</td><td>$\frac{5}{3}x$</td><td>- 8</td></th>	<th>P</th> <td><i>x</i></td> <td>+</td> <td>y</td> <td>=</td> <td>7;</td> <td>(-</td> <td>4, 0</td> <td>)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>y =</td> <td>3<i>x</i></td> <td>- 2</td> <td>;</td> <td>l</td> <td>4 į</td> <td>J =</td> <td>$\frac{5}{3}x$</td> <td>- 8</td>	P	<i>x</i>	+	y	=	7;	(-	4, 0)								7	y =	3 <i>x</i>	- 2	;	l	4 į	J =	$\frac{5}{3}x$	- 8
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<u> EXIT TICKET - Algebra U7L5 - Par</u>	allel and Perpendicular Lines		-1 -25 p 2.5 1 1.5 2 2.6 3 -25 -72

EXIT TICKET - Algebra U7L5 - Parallel and Perpendicular Lines

Write in slope-intercept form the equation of the line that is parallel to the given line and passes through the given point.

4.
$$y = 3x + 2$$
 and $(-2, 1)$

Write in slope-intercept form the equation of the line that is <u>perpendicular</u> to the given line and passes through the given point

5. $y = \frac{2}{5}x - 3$ and (2, -3)

Name	Date:	Pd:	23 23 23 13 13 7 10 7
EXIT TICKET - Algebra U7L5 - Paralle	el and Perpendicular Lines		0.8 1.4 0.5 0 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.

Write in slope-intercept form the equation of the line that is parallel to the given line and passes through the given point.

4.
$$y = 3x + 2$$
 and $(-2, 1)$

Write in slope-intercept form the equation of the line that is perpendicular to the given line and passes through the given point

5. $y = \frac{2}{5}x - 3$ and (2, -3)