

Mathematics 9
Finding Equations of Lines

Date: _____

<p>1.</p>	<p>2.</p>	<p>3.</p>
<p>$m = \frac{8}{4} = 2$ $b = -5$</p>	<p>$m = 3$ $b = 6$</p>	<p>$m = \frac{2}{5}$ $b = 1$</p>
<p>Equation of line: $y = mx + b \Rightarrow y = 2x - 5$</p>	<p>Equation of line: $y = 3x + 6$</p>	<p>Equation of line: $y = \frac{2}{5}x + 1$</p>
<p>4.</p>	<p>5.</p>	<p>6.</p>
<p>$m = \frac{4}{6} = \frac{2}{3}$ $b = 2$</p>	<p>$m = \frac{-8}{8} = -1$ $b = -8$</p>	<p>$m = \frac{-5}{1}$ $b = 7$</p>
<p>Equation of line: $y = \frac{2}{3}x + 2$</p>	<p>Equation of line: $y = -x - 8$</p>	<p>Equation of line: $y = -5x + 7$</p>
<p>7.</p>	<p>8.</p>	<p>9.</p>
<p>$m = \frac{-2}{6} = -\frac{1}{3}$ $b = 0$</p>	<p>$m = \frac{-3}{3}$ $b = 3$</p>	<p>$m = -\frac{1}{2}$ $b = -\frac{3}{2}$ or -1.5</p>
<p>Equation of line: $y = -\frac{1}{3}x$</p>	<p>Equation of line: $y = -\frac{3}{5}x + 3$</p>	<p>Equation of line: $y = -\frac{1}{2}x - 1.5$</p>

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{-4 - 0}{5 - (-3)}$$

$$= \frac{-4}{5 + 3}$$

$$= \frac{-4}{8}$$

$$= -\frac{1}{2}$$

Mathematics 9
 Naming Equations of Lines

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Place the letter of the correctly matching line in the box beside each equation.

1.

i	E	$y = -x + 2$
ii	C	$y = \frac{1}{2}x + 2$
iii	F	$y = -2x + 2$
iv	B	$y = 2x + 2$
v	D	$y = 2$
vi	A	$y = 3x + 2$

2.

i	I	$y = x - 4$
ii	L	$y = -\frac{1}{2}x - 4$
iii	G	$y = x + 4$
iv	J	$y = -\frac{1}{2}x + 4$
v	H	$y = x$
vi	K	$y = -\frac{1}{2}x$

3.

i	N	$y = \frac{2}{3}x + \frac{3}{2}$
ii	S	$y = -\frac{2}{3}x - 1$
iii	R	$y = \frac{2}{3}x$
iv	M	$x = -3$
v	T	$y = -\frac{3}{2}x - 1$
vi	P	$y = 3$

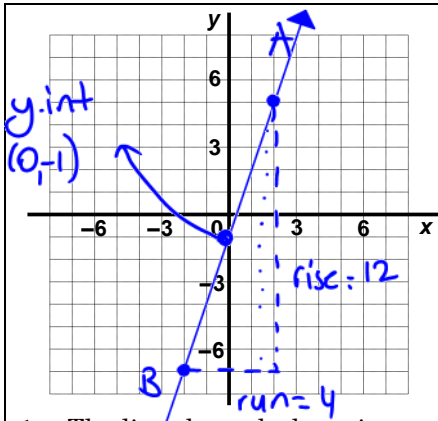
4.

i	Y	$y = -2$
ii	Z	$y = -x$
iii	X	$y = 2$
iv	U	$x = 2$
v	W	$y = 4$
vi	V	$y = x$

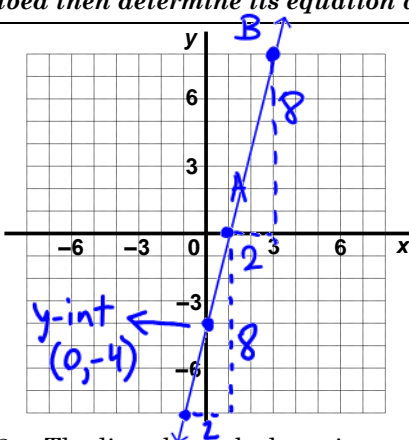
Mathematics 9
Plot & Name the Line

Date:

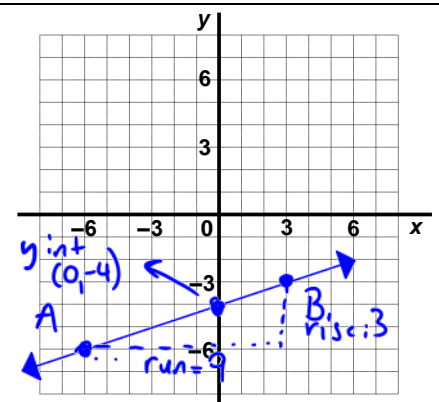
In each question, graph the line described then determine its equation and write it in the space provided.



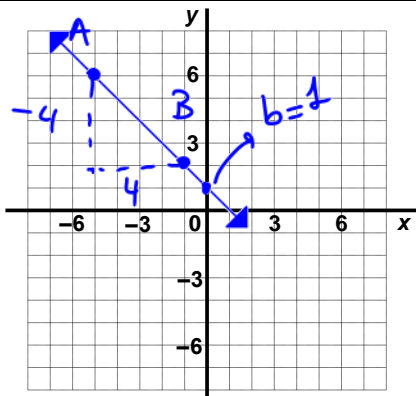
1. The line through the points A(2,5) and (-2,-7). B
 $m = \frac{12}{4} = 3$
 $b = -1$
 $y = 3x - 1$



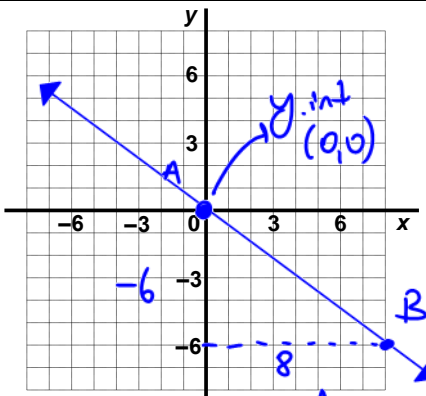
2. The line through the points A(1,0) and (3,8). B
 $m = \frac{8}{2} = 4$
 $b = -4$
 $y = 4x - 4$



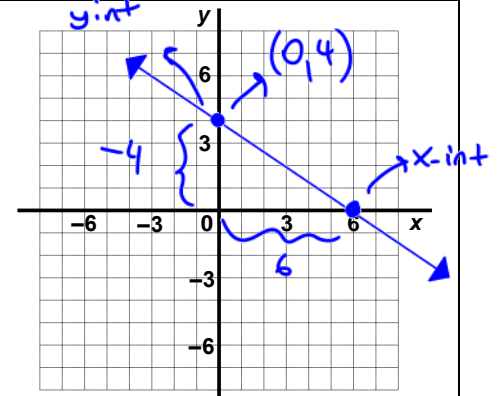
3. The line through the points (-6,-6) and (3,-3). B
 $m = \frac{3}{9} = \frac{1}{3}$
 $b = -4$
 $y = \frac{1}{3}x - 4$



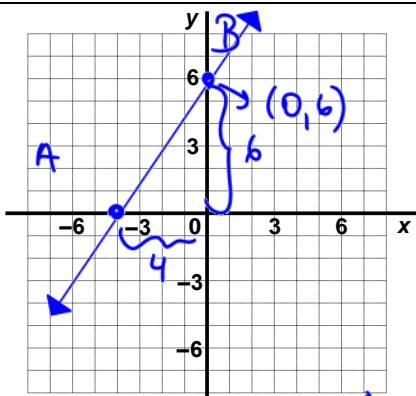
4. The line through the points A(-5,6) and (-1,2). B
 $m = -\frac{4}{4} = -1$
 $b = 1$
 $y = -x + 1$



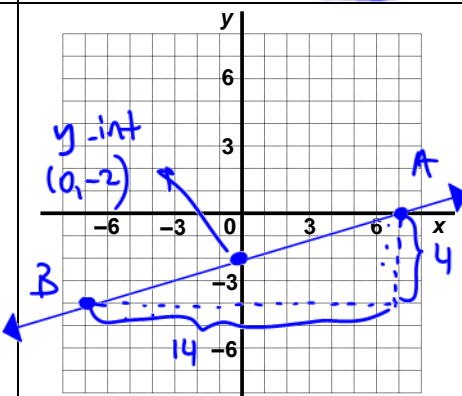
5. The line through the origin and the point (8,-6). B
 $m = -\frac{6}{8} = -\frac{3}{4}$
 $b = 0$
 $y = -\frac{3}{4}x$



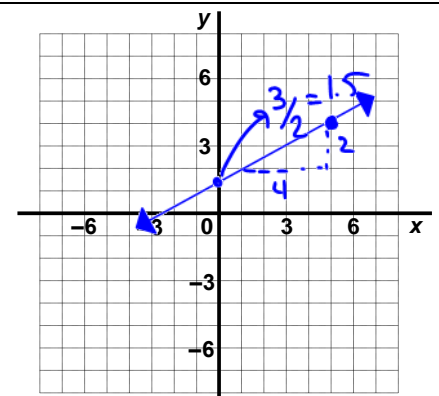
6. The line with x-intercept 6 and y-intercept 4.
 $m = -\frac{4}{6} = -\frac{2}{3}$
 $b = 4$
 $y = -\frac{2}{3}x + 4$



7. The line with x-intercept -4 and y-intercept 6. B
 $m = \frac{6}{4} = \frac{3}{2}$
 $b = 6$
 $y = \frac{3}{2}x + 6$



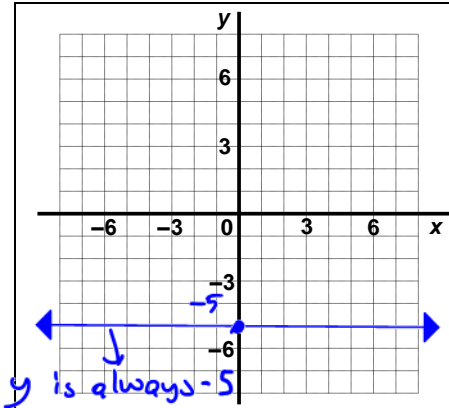
8. The line with x-intercept 7 and through the point (-7,-4). B
 $m = \frac{4}{14} = \frac{2}{7}$
 $b = -2$
 $y = \frac{2}{7}x - 2$



9. The line with y-intercept $\frac{3}{2}$ and through (5,4). B
 $m = \frac{1}{2}$
 $b = \frac{3}{2}$
 $y = \frac{1}{2}x + \frac{3}{2}$

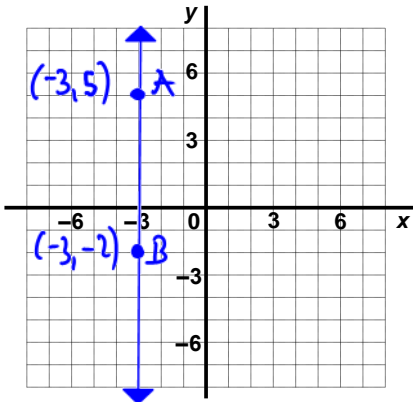
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Plot & Name the Line

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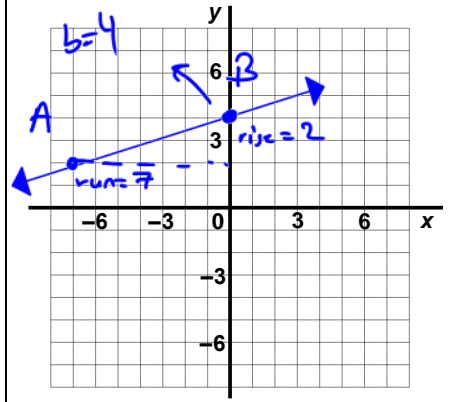
10. The line with y-intercept -5 and parallel to the x-axis.

$$y = -5$$



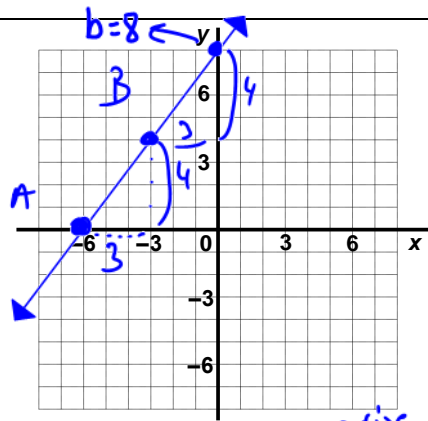
11. The line through the points $(-3, 5)$ and $(-3, -2)$.

$$x = -3$$



12. The line passing through the point $(-7, 2)$ with slope $\frac{2}{7}$.

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{2}{7} \Rightarrow y = \frac{2}{7}x + 4$$

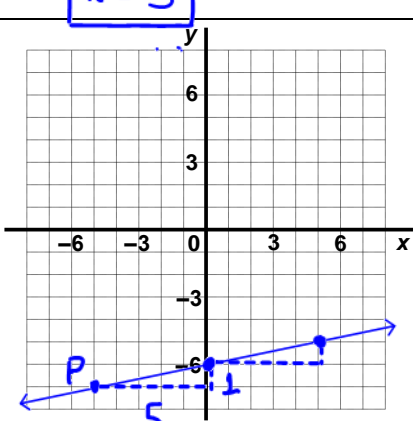


13. The line with slope $\frac{4}{3}$ and x-intercept -6 .

$$b = 8$$

$$m = \frac{4}{3}$$

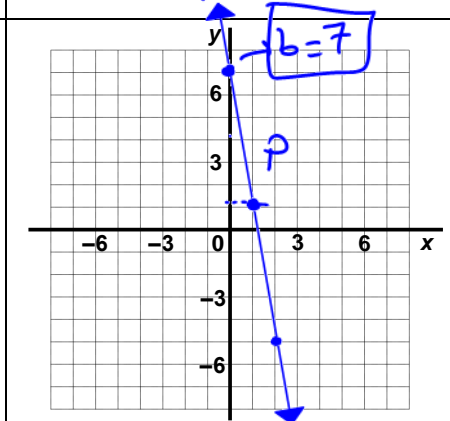
$$y = \frac{4}{3}x + 8$$



14. The line with slope $\frac{1}{5}$ passing through the point $(-5, -7)$.

$$m = \frac{1}{5}$$

$$y = \frac{1}{5}x - 6$$



15. The line with slope -6 passing through the point $(1, 1)$.

$$m = -6$$

$$b = 7$$

$$y = -6x + 7$$

Answers:

1. $y = 3x - 1$

2. $y = 4x - 4$

3. $y = \frac{1}{3}x - 4$

4. $y = -x + 1$

5. $y = -\frac{3}{4}x$

6. $y = -\frac{2}{3}x + 4$

7. $y = \frac{3}{2}x + 6$

8. $y = \frac{2}{7}x - 2$

9. $y = \frac{1}{2}x + \frac{3}{2}$

10. $y = -5$

11. $x = -3$

12. $y = \frac{2}{7}x + 4$

13. $y = \frac{4}{3}x + 8$

14. $y = \frac{1}{5}x - 6$

15. $y = -6x + 7$