

EXTRA PRACTICE 29
Slope and Equations of Lines
 Use after Section 7.2

Name _____

Examples:

- a) Find a slope-intercept equation for the line with slope 2 that contains (0,5).

$$y = mx + b$$

The slope-intercept equation.

$$y = 2x + 5$$

Substitute 2 for m and 5 for b .

- b) Find an equation of a line that contains the points (5,-2) and (-2,1).

$$m = \frac{1 - (-2)}{-2 - 5} = \frac{3}{-7} = -\frac{3}{7}$$

First find the slope.

$$y = -\frac{3}{7}x + b$$

Using the slope-intercept form $y = mx + b$ and substituting for m .

$$1 = -\frac{3}{7}(-2) + b$$

Using the point (-2,1) and substituting $x = -2$ and $y = 1$.

(We could have just as easily used the point (5,-2)).

$$1 = \frac{6}{7} + b$$

$$\frac{1}{7} = b$$

$$y = -\frac{3}{7}x + \frac{1}{7}$$

Substitute b into $y = mx + b$.

Find an equation of the line containing the given point and having the given slope.

1. (4,-3), $m = -1$ _____

2. (-5,-6), $m = 2$ _____

3. (-7,2), $m = 3$ _____

4. (3,5), $m = -2$ _____

5. (6,-2), $m = -3$ _____

6. (5,-2), $m = 2$ _____

7. (7,0), $m = 4$ _____

8. (0,9), $m = -2$ _____

9. (5,-1), $m = \frac{1}{5}$ _____

10. (-3,-2), $m = \frac{1}{4}$ _____

EXTRA PRACTICE 29 (continued)
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Find an equation of the line that contains the given pair of points

11. $(1,5)$ and $(4,2)$ _____ 12. $(-4,2)$ and $(1,-3)$ _____

13. $(-5,-3)$ and $(1,-1)$ _____ 14. $(0,3)$ and $(-2,6)$ _____

15. $(-8,3)$ and $(-4,1)$ _____ 16. $(6,2)$ and $(-3,0)$ _____

17. $(1,3)$ and $(4,6)$ _____ 18. $(3,-4)$ and $(-3,4)$ _____

19. $(-7,4)$ and $(-4,7)$ _____ 20. $(9,-5)$ and $(7,7)$ _____