

Algebra I

Worksheet 4.5

Name _____

Identify the slope of a line that would be parallel to the given line.

1. $y = 5 - 3x$

2. $-4x + 2y = 4$

3. $y - 5 = 3(x - 2)$

Identify the slope of a line that would be perpendicular to the given line.

4. $y = 2x + 3$

5. $3x - y = 8$

6. $y + 2 = 5(x - 6)$

Write an equation of the line that passes through the given point and is parallel to the given line.

7. $(4, 5), y = x + 6$

8. $(-1, 2), y = -3x + 1$

9. $(-3, 3), y = \frac{1}{2}x + 4$

10. $(-8, 3), y = 5 - 10x$

11. $(0, 1), 2x + y = 7$

12. $(2, -5), y - 9x = 1$

Write an equation of the line that passes through the given point and is perpendicular to the given line.

13. $(3, 2), y = -x + 2$

14. $(5, -1), y = 2x - 6$

15. $(-6, 7), y = \frac{1}{4}x - 1$

16. $(0, 4), y = -\frac{1}{3}x + 2$

17. $(-8, -4), y = -5x + 2$

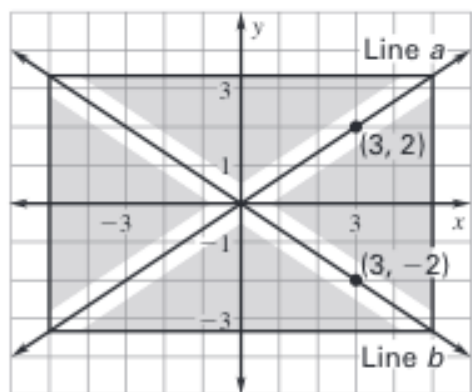
18. $(2, 9), 4x + y = 3$

Determine which of the following lines, if any, are parallel or perpendicular.

19. Line $a: y = 6x - 1$, Line $b: y = -\frac{1}{6}x$, Line $c: y = -6x + 5$

20. Line $a: y = 4 - 5x$, Line $b: 5x + y = 3$, Line $c: -\frac{1}{5}x + y = 4$

- 21. Country Flag** The flag of Scotland is shown in a coordinate plane.



- a.** Use the information in the graph to write equations for line a and line b .
- b.** Is line a perpendicular to line b ? *Explain* your reasoning.

