

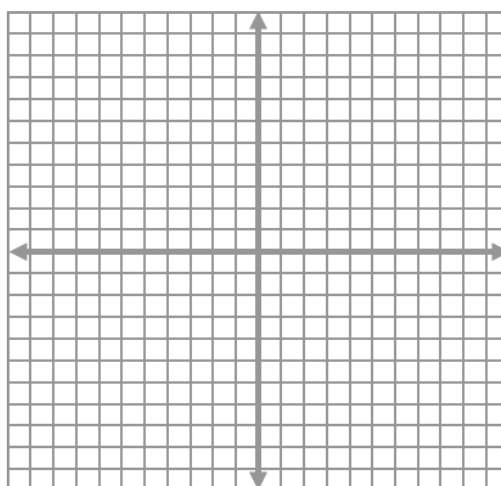
Alg 1 Block Week 12 Warm-up

Skill 5: Evaluate and Graph a Function.

Use a table of values to graph the equation.

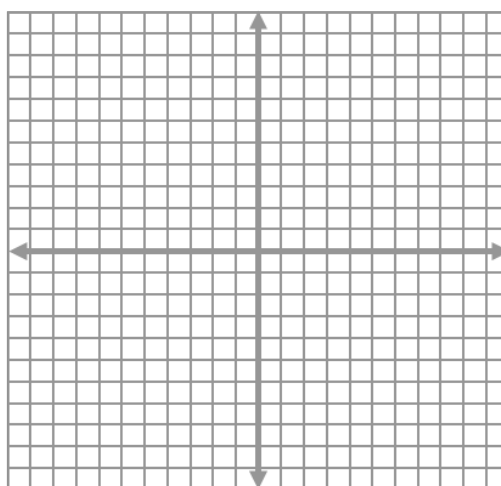
$$y = 2x^2 + 4x - 6$$

X	Y
1	
0	
-1	
-2	
-3	



Skill 6: Graph a linear equation.

$$-5x + y = -5$$



Skill 7: Write the Equation of a Line passing through 2 points.

$$(1,5) \text{ and } (4,11)$$

CW

Parallel and Perpendicular Lines



Block Day

Slopes of Parallel and Perpendicular LinesLines that are parallel have the same slope.Lines that are perpendicular have slopes that are negative reciprocals.In other words, if a line has slope $\frac{a}{b}$, any line that is parallel to it will have slope $\frac{a}{b}$,and any line that is perpendicular to it will have slope $-\frac{b}{a}$.Find the slope of each line, then state whether each pair of lines is *parallel*, *perpendicular*, or *neither*. Use the points A(0, 3), B(2, -5), C(-5, 6), D(1, 0), E(-3, -2), and F(4, 5).

1. Line \overline{AE} and line \overline{DF} .

2. Line \overline{AC} and line \overline{AE} .

3. Line \overline{AD} and line \overline{CF} .

4. Line \overline{AC} and line \overline{DF} .

5. Line \overline{BE} and line \overline{AC} .

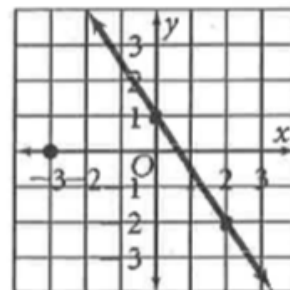
6. Line \overline{AF} and line \overline{ED} .

7. Line \overline{ED} and line \overline{BD} .

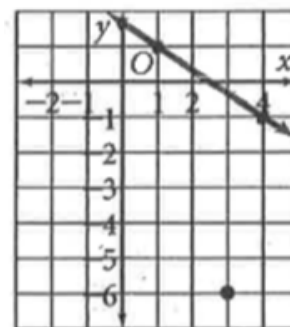
8. Line \overline{BE} and line \overline{AE} .

Notes 5-6: Parallel and Perpendicular Lines

Example 1: Write an equation for the line that is perpendicular to the given line and that passes through the given point.



Example 2: Write an equation for the line that is parallel to the given line and that passes through the given point.

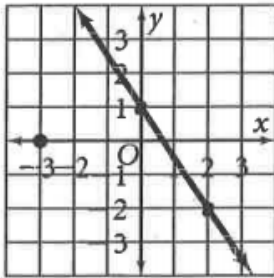


Example 3: Write the equation of a line parallel to the line $2x - 3y = 3$ that passes through the point $(3, 7)$

Example 4: Write the equation of a line perpendicular to the line $-2x + y = 1$ that passes through the point $(4, -1)$

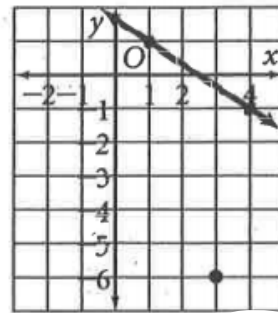
Write an equation for the line that is perpendicular to the given line and that passes through the given point.

19.



Examples:

28.



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

HW p 334: 27-30 + handout 5-6.B

27. Identify each pair of parallel lines. Then identify each pair of perpendicular lines.

line a : $y = 3x + 3$

line b : $x = -1$

line c : $y - 5 = \frac{1}{2}(x - 2)$

line d : $y = 3$

line e : $y + 4 = -2(x + 6)$

line f : $9x - 3y = 5$

Determine whether each statement is *always*, *sometimes*, or *never* true. Explain.

28. A horizontal line is parallel to the x -axis.

29. Two lines with positive slopes are parallel.

30. Two lines with the same slope and different y -intercepts are perpendicular.

5.6 B Wk 11 Block Homework

Do circled problems on a separate piece of paper.

Find the slope of a line parallel to the graph of each equation.

1. $y = 4x + 2$

2. $y = \frac{2}{7}x + 1$

3. $y = -9x - 13$

4. $y = -\frac{1}{2}x + 1$

5. $6x + 2y = 4$

6. $y - 3 = 0$

7. $-5x + 5y = 4$

8. $9x - 5y = 4$

9. $-x + 3y = 6$

10. $6x - 7y = 10$

11. $x = -4$

12. $-3x - 5y = 6$

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

13. $(6, 4)$; $y = 3x - 2$

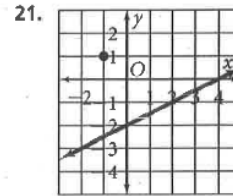
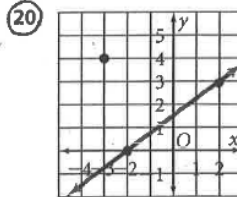
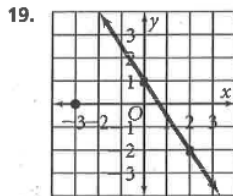
14. $(-5, 5)$; $y = -5x + 9$

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

16. $(1, 1)$; $y = -\frac{1}{4}x + 7$

17. $(12, -6)$; $y = 4x + 1$

18. $(0, -3)$; $y = -\frac{4}{3}x - 7$



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

22. $(3, 4)$; $y = 2x - 7$

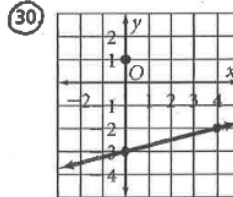
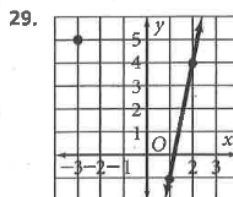
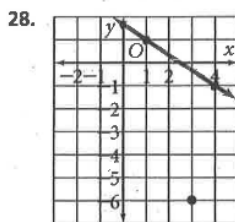
23. $(1, 3)$; $y = -4x + 5$

24. $(4, -1)$; $y = x - 3$

25. $(4, 0)$; $y = \frac{3}{2}x + 9$

26. $(-8, -4)$; $y = -\frac{3}{4}x + 5$

27. $(9, -7)$; $-7x - 3y = 3$



Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.

31. $y = 3x - 8$

$3x - y = -1$

32. $3x + 2y = -5$

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

33. $y = -\frac{5}{2}x + 11$

$-5x + 2y = 20$

34. $9x + 3y = 6$

$3x + 9y = 6$

35. $y = -4$

$y = 4$

36. $x = 10$

$y = -2$