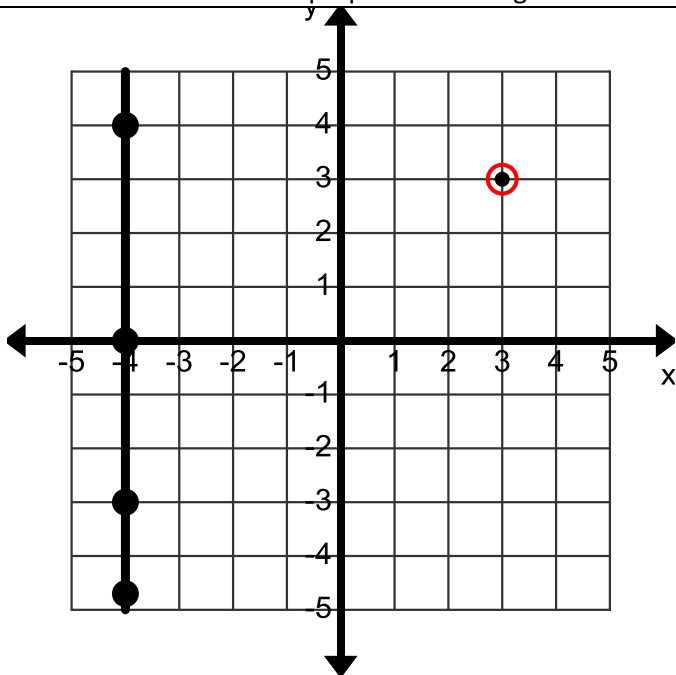


Goal: Define parallel, perpendicular, and intersecting lines.

1. \_\_\_\_\_ parallel diagonal lines must have \_\_\_\_\_ slope  
(same, different, or opposite and reciprocal )
2. \_\_\_\_\_ perpendicular diagonal lines must have \_\_\_\_\_ slope  
(same, different, or opposite and reciprocal )
3. \_\_\_\_\_ intersecting diagonal lines must have \_\_\_\_\_ slope  
(same, different, or opposite and reciprocal )
4. \_\_\_\_\_ horizontal lines are parallel to \_\_\_\_\_  
(other horizontal lines, any vertical line, the x axis, the y axis)
5. \_\_\_\_\_ vertical lines are parallel to \_\_\_\_\_  
(other vertical lines, any horizontal line, the x axis, the y axis)
6. \_\_\_\_\_ horizontal lines are perpendicular to \_\_\_\_\_  
(other horizontal lines, any vertical line, the x axis, the y axis)
7. \_\_\_\_\_ vertical lines are perpendicular to \_\_\_\_\_  
(other vertical lines, any horizontal line, the x axis, the y axis)

Goal: Write a line that passes through a given point that is parallel to a given line.

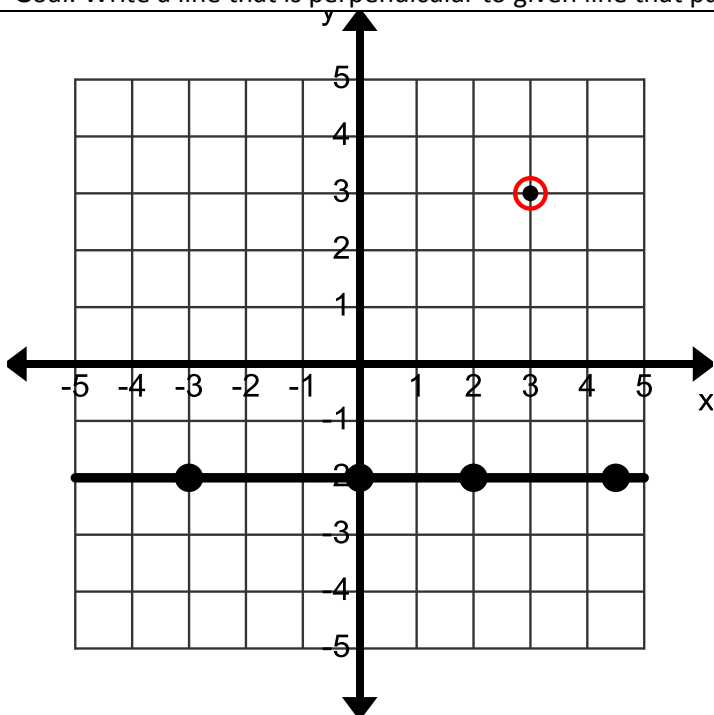
Goal: Write a line that is perpendicular to given line that passes through a particular point.



8. Determine the equation the line that is given on the graph paper
9. Determine the coordinate of the point that is NOT on the line
10. Determine the equation of the line that is parallel to this given line that passes through the point that does not lie on the given line
11. Determine the equation of the line that is perpendicular to this given line that passes through the point that does not lie on the given line

Goal: Write a line that passes through a given point that is parallel to a given line.

Goal: Write a line that is perpendicular to given line that passes through a particular point.

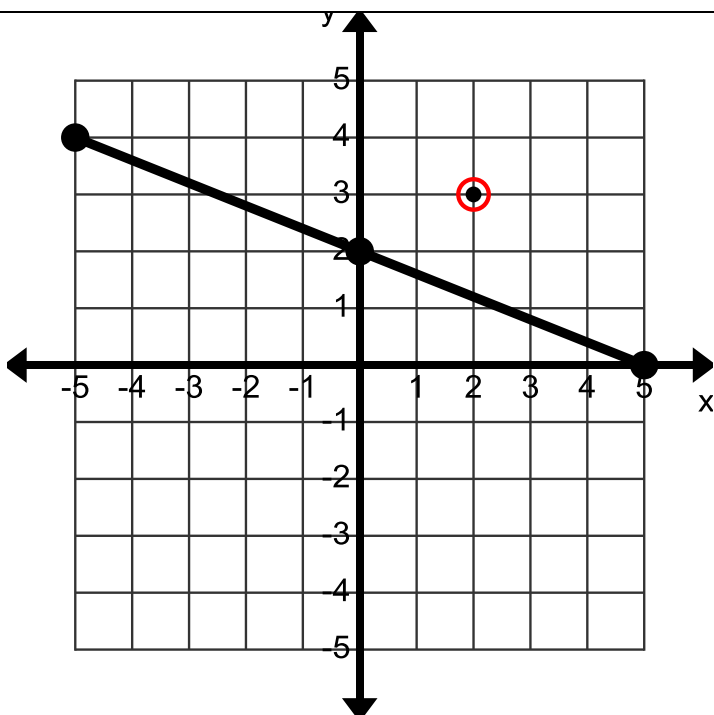


12. Determine the equation the line that is given on the graph paper

13. Determine the coordinate of the point that is NOT on the line

14. Determine the equation of the line that is parallel to this given line that passes through the point that does not lie on the given line

15. Determine the equation of the line that is perpendicular to this given line that passes through the point that does not lie on the given line



16. Determine the equation the line that is given on the graph paper

17. Determine the coordinate of the point that is NOT on the line

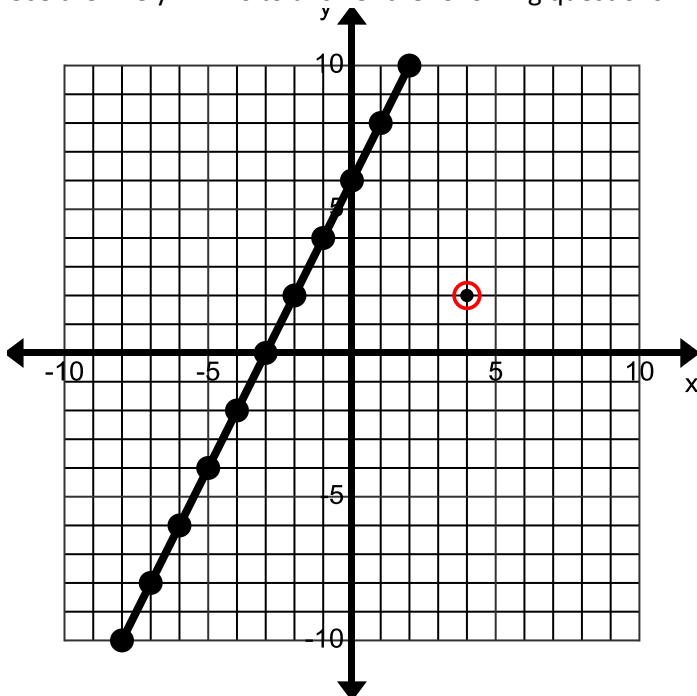
18. Determine the equation of the line that is parallel to this given line that passes through the point that does not lie on the given line

19. Determine the equation of the line that is perpendicular to this given line that passes through the point that does not lie on the given line

Goal: Define properties and traits of parallel and perpendicular lines

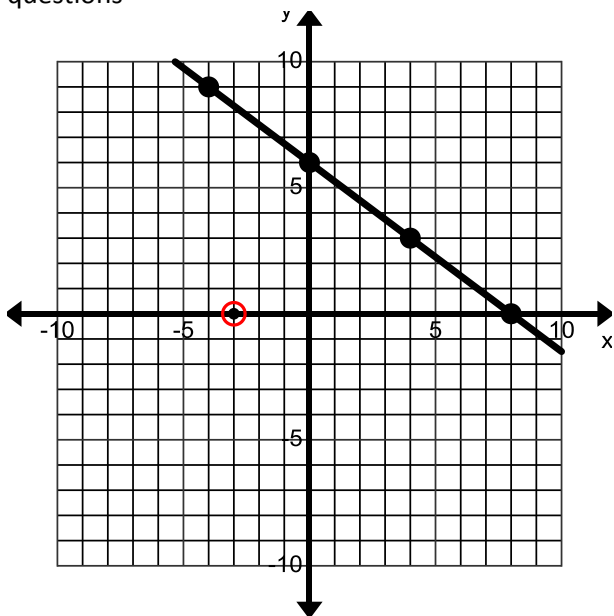
Goal: Write equations of lines that pass through particular points with particular characteristics

Use the line  $y = 2x + 6$  to answer the following questions



20. \_\_\_\_\_ State the slope of all lines that are parallel to the line  $y = 2x + 6$
21. \_\_\_\_\_ State the slope of all lines that are perpendicular to the line  $y = 2x + 6$
22. \_\_\_\_\_ State the equation of the ONE line that is parallel to the line  $y = 2x + 6$  that also passes through the origin
23. \_\_\_\_\_ State the equation of the ONE line that is perpendicular to the line  $y = 2x + 6$  that also passes through the origin
24. \_\_\_\_\_ State the equation of the ONE line that is parallel to the line  $y = 2x + 6$  that also passes through the point (4,2)
25. \_\_\_\_\_ State the equation of the ONE line that is perpendicular to the line  $y = 2x + 6$  that also passes through the point (4,2)

Use the line  $y = \frac{-3}{4}x + 6$  to answer the following questions



26. \_\_\_\_\_ State the equation of the ONE line that is parallel to the line  $y = \frac{-3}{4}x + 6$  that also passes through the point (-3,0)
27. \_\_\_\_\_ State the equation of the ONE line that is perpendicular to the line  $y = \frac{-3}{4}x + 6$  that also passes through the point (-3,0)

Goal: Write an equation in point slope form of the line given a point and a slope  
Goal: Convert point slope form of a line into slope intercept form of a line  
Goal: Determine the given point and given slope of a point slope line

Point slope form of the line

$$y - y_1 = m(x - x_1)$$

Modified Point Slope form of the line

$$y = m(x - x_1) + y_1$$

28. Write a line in point slope form that has the point (10, -3) on the line and has a slope of  $\frac{-3}{5}$

29. Convert the previous line into slope intercept form of the line

30. State the implied point, and slope from the following equations

a.  $y - 6 = -3(x + 5)$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

b.  $y + 4 = 2(x - 1)$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

c.  $y - 7 = 5(x - 4)$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

d.  $y + 3 = -7(x + 1)$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

e.  $y = -6(x + 1) + 8$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

f.  $y = 1(x - 9) - 2$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

g.  $y = -2(x + 5) - 6$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_

h.  $y = 5(x - 2) + 8$  This line has slope = \_\_\_\_\_ and the implied point that it passes through is \_\_\_\_\_