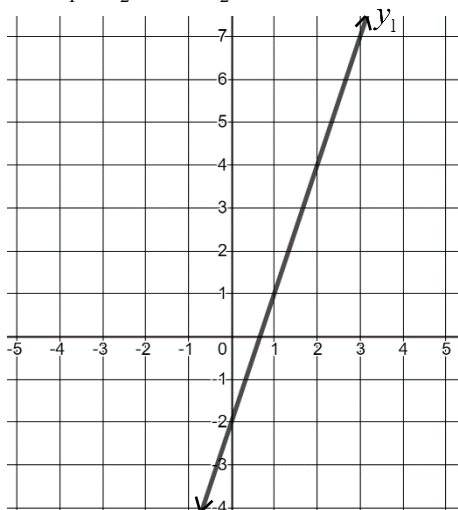


Name: _____ Date: _____ Period: _____

Geometry 2.4 Parallel and Perpendicular Lines

For 1-2, graph the line y_2 so that it meets the given requirements. Then write the equations for y_1 and y_2 .

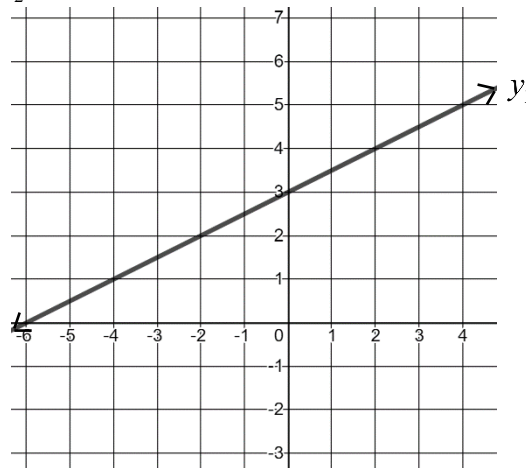
1. $y_1 \parallel y_2$ and y_2 passes through $(0,3)$



Equation for y_1 _____

Equation for y_2 _____

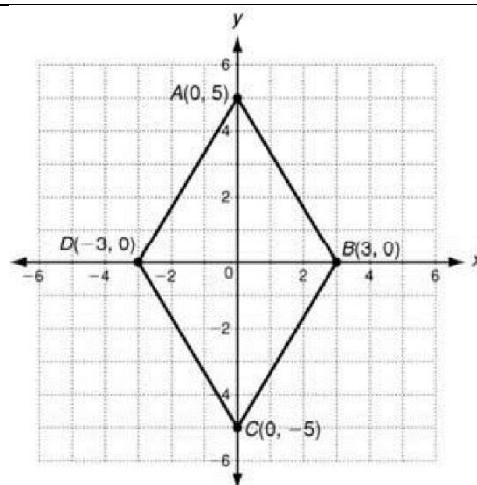
2. $y_1 \perp y_2$ and y_2 passes through $(-2,2)$



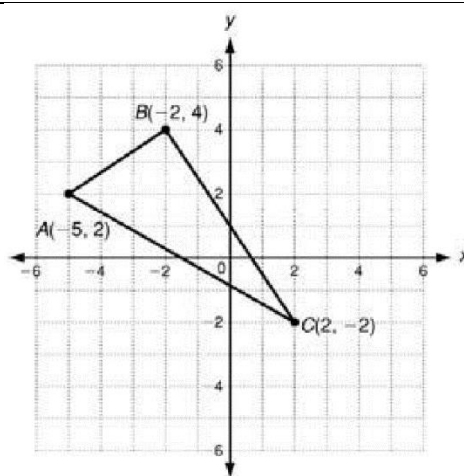
Equation for y_1 _____

Equation for y_2 _____

3. A parallelogram is a quadrilateral with opposite sides parallel to each other. Prove the figure to the right is a parallelogram by algebraically showing its opposite sides are parallel to each other.



4. A right triangle is a triangle that has a right angle. Prove that the triangle below is a right triangle by algebraically showing it has a right angle.



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For 5-6, determine if the lines $y = f(x)$ and $y = g(x)$ are parallel using the table of values.

5.

x	$f(x)$	$g(x)$
0	20	22
1	35	37
2	50	52
3	65	67

6.

x	$f(x)$	$g(x)$
0	5	10
1	7	15
2	9	20
3	11	25

For 7-10, write the equation of the line that passes through the point and is parallel or perpendicular.

7. Through $(-2, -5)$ and parallel to $y = x + 3$

8. Through $(1, -3)$ and perpendicular to $y = -x$

9. Through $(4, 5)$ and parallel to $y = \frac{1}{4}x - 4$

10. Through $(0, -4)$ and perpendicular to $y = -\frac{3}{2}x + 1$

11. Line m contains $(6, 8)$ and $(-1, 2)$. Line n contains $(-1, 5)$ and $(5, y)$. What is the value of y if line m is perpendicular to line n ?