

Lesson 6-6: Parallel and Perpendicular Lines

Part 1: Parallel Lines

1. 080009a, P.I. A.A.38

Which equation represents a line parallel to the line $y = 2x - 5$?

- [A] $y = -2x - 5$ [B] $y = -\frac{1}{2}x - 5$
[C] $y = 2x + 5$ [D] $y = 5x - 2$

2. 010522a, P.I. A.A.38

Which equation represents a line that is parallel to the line whose equation is $2x + 3y = 12$?

- [A] $6y + 4x = 2$ [B] $6y - 4x = 2$
[C] $6x + 4y = -2$ [D] $4x - 6y = 2$

3. 010309a

Line P and line C lie on a coordinate plane and have equal slopes. Neither line crosses the second or third quadrant. Lines P and C must

- [A] be horizontal
[B] form an angle of 45°
[C] be vertical [D] be perpendicular

4. 060105a

Which properties best describe the coordinate graph of two distinct parallel lines?

- [A] same slopes and different intercepts
[B] different slopes and different intercepts
[C] different slopes and same intercepts
[D] same slopes and same intercepts

5. 060210a

If two lines are parallel and the slope of one of the lines is m , what is the product of their slopes?

- [A] 1 [B] m^2 [C] $2m$ [D] 0

Part 2: Perpendicular Lines

6. 060729a

If the product of x and $\frac{1}{m}$ is -1 , $m \neq 0$, then
 x is equivalent to

- [A] $-\frac{1}{m}$ [B] $1-m$ [C] m [D] $-m$

7. 060528a, P.I. G.G.63

Which equation represents a line that is perpendicular to the line whose equation is $-2y = 3x + 7$?

- [A] $2y = 3x - 3$ [B] $y = \frac{3}{2}x - 3$
[C] $y = \frac{2}{3}x - 3$ [D] $y = x + 7$

8. 080630a, P.I. G.G.63

Which line is perpendicular to the line whose equation is $5y + 6 = -3x$?

- [A] $y = \frac{5}{3}x + 7$ [B] $y = -\frac{3}{5}x + 7$
[C] $y = \frac{3}{5}x + 7$ [D] $y = -\frac{5}{3}x + 7$

9. 060722a, P.I. G.G.63

Which statement describes the lines whose equations are $y = \frac{1}{3}x + 12$ and $6y = 2x + 6$?

- [A] They are parallel to each other.
[B] They intersect each other.
[C] They are perpendicular to each other.
[D] They are segments.

10. 080130a, P.I. G.G.63

Shanaya graphed the line represented by the equation $y = x - 6$. Write an equation for a line that is parallel to the given line. Write an equation for a line that is perpendicular to the given line. Write an equation for a line that is identical to the given line but has different coefficients.

11. 010834a, P.I. G.G.64

Write an equation of a line that is perpendicular to the line $y = \frac{2}{3}x + 5$ and that passes through the point $(0,4)$.

[1] C _____

[2] A _____

[3] C _____

[4] A _____

[5] B _____

[6] D _____

[7] C _____

[8] A _____

[9] A _____

[3] Three correct equations are shown, such as $y = x + 7$, $y = -x - 6$, and $2y = 2x - 12$.

[2] Only two correct equations are shown.

[1] Only one correct equation is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[10] incorrect procedure.

[2] A correct equation is written, such as

$$y = -\frac{3}{2}x + 4 \text{ or } (y - 4) = -\frac{3}{2}(x - 0).$$

[1] An appropriate equation is written, but one computational error is made or one incorrect substitution is made.

[1] An appropriate equation is written, but one conceptual error is made, such as writing an equation for a parallel line going through (0,4) or for a perpendicular line that does not go through (0,4).

or [1] The slope is identified correctly as $-\frac{3}{2}$

or the y-intercept as 4, but no equation or an incorrect equation is written.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[11] incorrect procedure.
