

Memory List

Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$

Parallel Lines: Same Slope

Perpendicular Lines: Opposite & Reciprocal

One line has $m = \frac{2}{3}$

A perpendicular line has $m = -\frac{3}{2}$

Oct 11-4:39 PM

1 Find the y-intercept of $3x + 4y = 12$.

↑
0

$$\frac{4y}{4} = \frac{12}{4}$$

$$y = 3$$



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2 Find the slope of $3x + 4y = 12$.

$$\begin{array}{c|c} x & y \\ \hline 0 & 3 \\ 4 & 0 \end{array}$$

↑
0

$$m = \frac{3 - 0}{0 - 4} = \frac{3}{-4}$$

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3 Solve for y: $3x + 4y = 12$.

- A I think I got it right.
- B I think I didn't get it right.
- C Go on without me.

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4 Solve for y : $3x + 4y = 12$.

A $y = -3x + 12$

B $y = -3x + 8$

C $y = -\frac{3}{4}x + 12$

D $y = -\frac{3}{4}x + 3$

E Help!

$$3x + 4y = 12.$$

$$\begin{aligned}4y &= -3x + 12 \\ \frac{1}{4}(4y) &= \frac{1}{4}(-3x + 12) \\ y &= -\frac{3}{4}x + 3\end{aligned}$$

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5 Find the y -intercept of $5x - 2y = 20$.

\uparrow
0

$$\frac{-2y}{-2} = \frac{20}{-2}$$

$$y = -10$$

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6 Find the slope of $5x - 2y = 20$.

x	y
0	-10
4	0

↑
0

$$\frac{-10 - 0}{0 - 4} = \frac{-10}{-4} = \frac{5}{2}$$

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7 Solve for y: $5x - 2y = 20$.

- A I think I got it right.
- B I think I didn't get it right.
- C Go on without me.

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8 Solve for y : $5x - 2y = 20$.

A $y = \frac{5}{2}x - 10$

B $y = \frac{5}{2}x + 20$

C $-2y = -5x + 20$

D $2y = 5x + 20$

E Help!

$$5x - 2y = 20.$$

$$-2y = -5x + 20$$

$$-\frac{1}{2}(-2y) = -\frac{1}{2}(-5x + 20)$$

$$y = \frac{5}{2}x - 10$$

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$$y = mx + b$$

Find the y -intercept:

$$y = b$$

Find the slope:

x	y
1	$m + b$
0	b

$$\frac{m+b - b}{1 - 0} = \frac{m}{1} = m$$

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When a linear equation is solved for y ...

$$y = mx + b$$

$$y = 7x + 9$$

This is called the **slope-intercept form** of the equation.

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9 What is the slope of $y = 3x - 2$?



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10 What is the y -intercept of $y = 3x - 2$?



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11 What is the slope of $y = -x + 7$?

$$y = -1x + 7$$



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12 What is the y -intercept of $y = -x + 7$?



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13 What is the slope of $y = \frac{3}{4}x$?



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14 What is the y -intercept of $y = \frac{3}{4}x$?

$$y = \frac{3}{4}x + 0$$



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Write an equation for the line with a slope of -9 and a y -intercept of -6 .

A $y = 6x + 9$

B $y = -6x - 9$

C $y = 9x + 6$

D $y = -9x - 6$

E Help!



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16

Write an equation for the line with a slope of $\frac{1}{2}$ and a y -intercept of -3 .

A $y = \frac{1}{2}x - 3$

B $y = -\frac{1}{2}x + 3$

C $y = -3x + \frac{1}{2}$

D $y = 3x - \frac{1}{2}$

E Help!



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Write an equation for the line with a slope of $\frac{1}{4}$ and a y -intercept of -3 .

A $y = 3x - \frac{1}{4}$

B $y = -3x + \frac{1}{4}$

C $y = \frac{1}{4}x - 3$

D $y = -\frac{1}{4}x + 3$

E Help!



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Write an equation for the line with a slope of 1 and a y -intercept of 2.

A $y = 2x + 1$

B $y = x + 2$ ← $y = 1x + 2$

C $y = x + 1$

D $y = 2x$

E Help!

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Write an equation for the line with a slope of 0 and a y -intercept of 1.

A $y = x + 1$

B $y = 0$

C $y = x$

D $y = 1$

E Help!

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