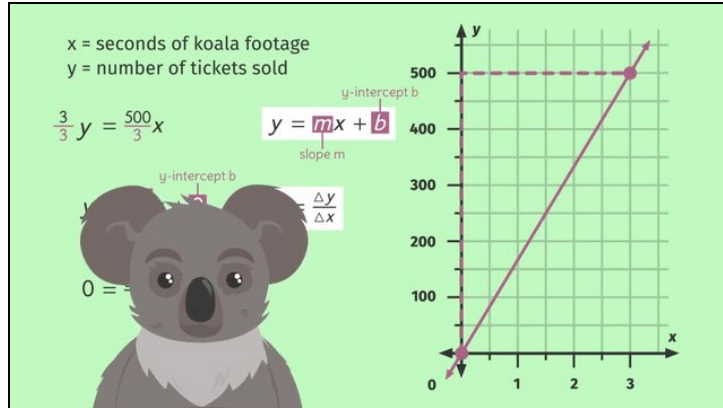




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# The Slope of the Line $y=mx+b$



- 1 Determine if the equation is written in slope-intercept form or not.
  - 2 Recall how to write equations in slope-intercept form.
  - 3 Identify the slope and the  $y$ -intercept of each equation.
  - 4 Match the equations with their slope-intercept form.
  - 5 Determine the line.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



## Determine if the equation is written in slope-intercept form or not.

Assign the equations to either slope-intercept form or not slope-intercept form.

$2y = x + 1$ <b>1</b>	$\frac{3}{2}x + y = 2$ <b>2</b>	$y = -\frac{2}{5}x$ <b>3</b>	$-y = 2x - 3$ <b>4</b>
$-x + 1 = y$ <b>5</b>	$y = -4x$ <b>6</b>	$y = 4 + 2x$ <b>7</b>	$7y = 2x$ <b>8</b>
$y = 5x - 3$ <b>9</b>	$x = -\frac{1}{2}y + 1$ <b>10</b>	$x = -\frac{1}{2}y + 1$ <b>11</b>	$1 - 3x = y$ <b>12</b>

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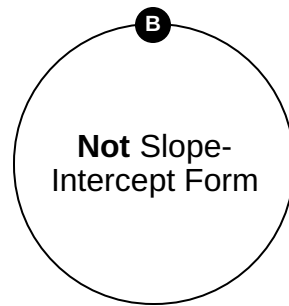
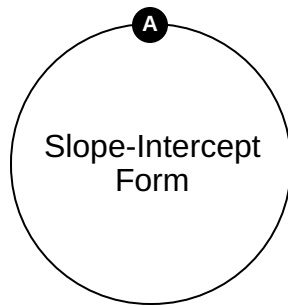
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## Hints for solving these problems

1  
of 5

**Determine if the equation is written in slope-intercept form or not.**

**Hint #1**

Slope-intercept form is  $y = mx + b$ .

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**Hint #2**

Slope-intercept form can also look like  $y = b + mx$ ,  $mx + b = y$  or  $b + mx = y$ .

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**Hint #3**

If there is no  $y$ -intercept  $b$ , slope-intercept form will look like  $y = mx$ .

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## Answers and detailed answer explanations for these problems

1  
of 5

**Determine if the equation is written in slope-intercept form or not.**

**Answer key:** A: 3, 5, 6, 7, 9, 12 // B: 1, 2, 4, 8, 10, 11

Slope-intercept form is  $y = mx + b$ . However, the terms can be rearranged and still be in slope-intercept form. The following equations are 4 different ways to represent slope-intercept form.

- $y = mx + b$ : the original slope-intercept form
- $y = b + mx$ : the terms on the right side are switched
- $mx + b = y$ : the equation is flipped so that  $y$  is on the right
- $b + mx = y$ : the equation is flipped with  $y$  on the right, and the  $mx$  and  $b$  terms are switched

If there is no  $y$ -intercept, the equation will look like  $y = mx$  or  $mx = y$ .

The following equations are in slope-intercept form because they match one of the equations listed above.

- $y = 5x - 3$
- $y = 4 + 2x$
- $y = -\frac{2}{5}x$
- $y = -4x$
- $1 - 3x = y$
- $-x + 1 = y$

The following equations are **not** in slope-intercept form because they do not match any of the slope-intercept form equations above.

- $x = -\frac{1}{2}y + 1$
- $\frac{3}{2}x + y = 2$
- $2y = x + 1$
- $x = -\frac{1}{2}y + 1$
- $-y = 2x - 3$
- $7y = 2x$