

4.4 - Rearranging Equations

Equations in the form $y = mx + b$ are in slope - y-intercept form.
It is possible to take equations in the form $y = mx + b$ and rearrange them so they have the form

$Ax + By + C = 0$. This is called **Standard Form**. $6x + 2y - 3 = 0$ is an example of a line in standard form

In Standard form, A, B and C are integers
A and B cannot both be zero
A must be positive.

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Example 1

Write each equation in the form $Ax + By + C = 0$

a) $y = -3x + 1$

b) $y = -2x - 7$

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Example 2

Write each equation in slope and y-intercept form, $y = mx + b$

a) $2x + y + 9 = 0$

b) $4x - y - 5 = 0$

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Try

$3x + y - 4 = 0$

$2x - y + 4 = 0$

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C) Write $5x + 2y - 10 = 0$ in $y = mx + b$ form.

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Example 3

The equation $7x + 6y - 1 = 0$ is in standard form.

What are the values of A, B and C?

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Example 4

The line $2x + 5y + C = 0$, goes through the point (1,7)
find the value of C.

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Assignment
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1, 2 a,c,e, 3 a,c,e

4 a,c,e,g, 8,10

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1a) $3x + y + 6 = 0$

$$y = -3x - 6$$

1b) $x - 4y + 8 = 0$

$$\frac{-4y}{-4} = \frac{-x - 8}{-4}$$

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

1c) $5x - 2y - 4 = 0$

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

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

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