



**James Madison**  
HIGH SCHOOL

# Review: Solving One-Step Equations



# James Madison HIGH SCHOOL Definitions

- **Term**: a number, variable or the product or quotient of a number and a variable.

**12**

**X**

**2w**

**$\frac{c}{3}$**

- **Terms** are separated by addition (+) or subtraction (-) signs.

$$3a - 2/5b + 7x - 4z + 52$$

How many Terms do you see?

5



# James Madison HIGH SCHOOL Definitions

- **Constant:** a term that is a number.
- **Coefficient:** the number value in front of a variable in a term.

$$3x - 6y + 18 = 0$$

What are your coefficients?

3 , -6

What is your constant?

18



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# Solving one-step equations:

- A one-step equation means you only have to perform 1 mathematical operation to solve it.
- You can **add**, **subtract**, **multiply** or **divide** to solve a one-step equation.



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# Solving one-step equations:

- To undo an operation, use the OPPOSITE OPERATION

$+$                        $-$

$-$     $\Rightarrow$     $+$

$\times$     $\Rightarrow$     $\div$

$\div$     $\Rightarrow$     $\times$

$\Rightarrow$



- **Solving an addition equation:**

$$t + 7 = 21$$

Get rid of the 7 by subtracting 7 from both sides of the equation.

$$\begin{array}{r} t + 7 = 21 \\ \quad \swarrow \quad \searrow \\ \quad -7 \quad \quad -7 \end{array}$$

$$t = 14$$





- **Solving a subtraction equation:**

$$g - 6 = 40$$

Get rid of the 6 by adding its opposite to both sides of the equation.

$$\begin{array}{r} g - 6 = 40 \\ +6 \quad +6 \end{array}$$

$$g = 46$$



- **Solving a multiplication equation:**

$$8n = 32$$

Get rid of the 8 by dividing both sides of the equation by 8. Here we “undo” multiplication by doing the opposite – division.

$$\frac{\cancel{8}n}{\cancel{8}} = \frac{32}{8}$$

$$n = 4$$



# James Madison HIGH SCHOOL **Example 4**

- **Solving a division equation:**

$$k / 9 = 11$$

Get rid of the 9 by multiplying both sides of the equation by 9. Here we “undo” division by doing the opposite – multiplication.

$$k / 9 = 11$$

$$\begin{array}{cc} \diagdown & \\ x 9 & x 9 \end{array}$$

$$k = 99$$



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# Video Tutors

- ***One Step Equations by /Adding:***

[http://www.phschool.com/atschool/academy123/english/academy123\\_content/wl-book-demo/ph-013s.html](http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-013s.html)

- ***One Step Equations by Subtracting:***

[http://www.phschool.com/atschool/academy123/english/academy123\\_content/wl-book-demo/ph-012s.html](http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-012s.html)

- ***One Step Equations by Multiplication:***

[http://www.phschool.com/atschool/academy123/english/academy123\\_content/wl-book-demo/ph-015s.html](http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-015s.html)

- ***One Step Equations by Division:***

[http://www.phschool.com/atschool/academy123/english/academy123\\_content/wl-book-demo/ph-014s.html](http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-014s.html)