

Name: *Key*

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples								
<h2>Literal Equations</h2>	<p>SOLVE EACH OF THE EQUATIONS BELOW FOR x:</p> <table border="1"> <tr> <td> $\begin{array}{r} 2x - 5 = 13 \\ +5 \quad +5 \\ \hline 2x = 18 \\ \frac{2x}{2} = \frac{18}{2} \\ x = 9 \end{array}$ </td> <td> $\begin{array}{r} ax - b = c \\ +b \quad +b \\ \hline ax = c + b \\ \frac{ax}{a} = \frac{c + b}{a} \\ x = \frac{c + b}{a} \end{array}$ </td> </tr> </table>	$\begin{array}{r} 2x - 5 = 13 \\ +5 \quad +5 \\ \hline 2x = 18 \\ \frac{2x}{2} = \frac{18}{2} \\ x = 9 \end{array}$	$\begin{array}{r} ax - b = c \\ +b \quad +b \\ \hline ax = c + b \\ \frac{ax}{a} = \frac{c + b}{a} \\ x = \frac{c + b}{a} \end{array}$						
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<p>Identify the similarities and differences between the two equations:</p> <ul style="list-style-type: none"> - Same steps to solve the equations - The variables represent the numbers - You don't combine when you add on the 2nd - You get an algebraic expression for an answer not a number. 									
<h2>One-Step Problems</h2>	<table border="1"> <tr> <td> <p>1. $\frac{A}{l} = \frac{lw}{l}$ solve for w</p> $w = \frac{A}{l}$ </td> <td> <p>2. $\frac{A}{b} = \frac{bh}{b}$ solve for h</p> $h = \frac{A}{b}$ </td> </tr> <tr> <td> <p>3. $\frac{d}{r} = \frac{rt}{r}$ solve for t</p> $t = \frac{d}{r}$ </td> <td> <p>4. $\frac{I}{pr} = \frac{prt}{pr}$ solve for t</p> $t = \frac{I}{pr}$ </td> </tr> <tr> <td> <p>5. $\frac{V}{lw} = \frac{hwh}{lw}$ solve for h</p> $h = \frac{V}{lw}$ </td> <td> <p>6. $\frac{A}{\pi r} = \frac{\pi r^2}{\pi}$ solve for r</p> $\sqrt{r^2} = \sqrt{\frac{A}{\pi}}$ $r = \sqrt{\frac{A}{\pi}}$ </td> </tr> <tr> <td> <p>7. $m = c - s$ solve for c</p> $+s \quad +s$ $m + s = c$ </td> <td> <p>8. $D = \frac{m}{v} \cdot v$ solve for m</p> $m = D \cdot v$ </td> </tr> </table>	<p>1. $\frac{A}{l} = \frac{lw}{l}$ solve for w</p> $w = \frac{A}{l}$	<p>2. $\frac{A}{b} = \frac{bh}{b}$ solve for h</p> $h = \frac{A}{b}$	<p>3. $\frac{d}{r} = \frac{rt}{r}$ solve for t</p> $t = \frac{d}{r}$	<p>4. $\frac{I}{pr} = \frac{prt}{pr}$ solve for t</p> $t = \frac{I}{pr}$	<p>5. $\frac{V}{lw} = \frac{hwh}{lw}$ solve for h</p> $h = \frac{V}{lw}$	<p>6. $\frac{A}{\pi r} = \frac{\pi r^2}{\pi}$ solve for r</p> $\sqrt{r^2} = \sqrt{\frac{A}{\pi}}$ $r = \sqrt{\frac{A}{\pi}}$	<p>7. $m = c - s$ solve for c</p> $+s \quad +s$ $m + s = c$	<p>8. $D = \frac{m}{v} \cdot v$ solve for m</p> $m = D \cdot v$
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Multi-Step Problems

Helpful Hints:

- Think backwards \longleftarrow PEMDAS
- Remove fractions by multiplying by the reciprocal.
- Last step is USUALLY to divide by whatever is next to your variable.

92. $A = \frac{1}{2}bh \cdot \frac{2}{1}$ solve for h

$$\frac{2A}{b} = \frac{bh}{b}$$

$$h = \frac{2A}{b}$$

103. $V = \frac{1}{3}Bh \cdot \frac{3}{1}$ solve for B

$$\frac{3V}{h} = \frac{Bh}{h}$$

$$B = \frac{3V}{h}$$

113. $K = \frac{mv^2}{2} \cdot 2$ solve for m

$$\frac{2K}{v^2} = \frac{mv^2}{v^2}$$

$$m = \frac{2K}{v^2}$$

12d. $a = \frac{b+c}{d} \cdot d$ solve for b

$$ad = b+c$$

$$\begin{array}{r} -c \\ -c \end{array}$$

$$ad - c = b$$

13. $P = 2L + 2W$ solve for W

$$\frac{P-2L}{2} = \frac{2W}{2}$$

$$W = \frac{P-2L}{2}$$

14. $Ax + By = C$ solve for y

$$\begin{array}{r} -Ax \\ -Ax \end{array}$$

$$\frac{By}{B} = \frac{C-Ax}{B}$$

$$y = \frac{C-Ax}{B}$$

15. $y = mx + b$ solve for x

$$\begin{array}{r} -b \\ -b \end{array}$$

$$\frac{y-b}{m} = \frac{mx}{m}$$

$$x = \frac{y-b}{m}$$

16. $A = P + Prt$ solve for t

$$\begin{array}{r} -P \\ -P \end{array}$$

$$\frac{A-P}{Pr} = \frac{Pirt}{Pr}$$

$$t = \frac{A-P}{Pr}$$

179. $C = \frac{5}{9}(F-32), \frac{9}{5}$ solve for F

$$\frac{9}{5}C = F-32$$

$$\begin{array}{r} +32 \\ +32 \end{array}$$

$$F = \frac{9}{5}C + 32$$

182. $A = \frac{1}{2}h(b_1 + b_2) \cdot \frac{2}{1}$ solve for b_1

$$\frac{2A}{h} = \frac{h(b_1 + b_2)}{h}$$

$$\frac{2A}{h} = b_1 + b_2$$

$$\begin{array}{r} -b_2 \\ -b_2 \end{array}$$

$$b_1 = \frac{2A}{h} - b_2$$