

# MULTI-VARIABLE EQUATIONS

SOLVE EACH OF THE EQUATIONS BELOW FOR  $x$ :

$$2x - 5 = 13$$

$$ax - b = c$$



**QUICK-WRITE:** What are some similarities and differences between the two equations?

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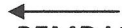
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## One-Step Problems

1. $A = lw$ solve for $w$	2. $A = bh$ solve for $h$	3. $d = rt$ solve for $t$
4. $I = prt$ solve for $t$	5. $V = lwh$ solve for $h$	6. $C = 2\pi r$ solve for $r$
7. $m = c - s$ solve for $c$	8. $A = \pi r^2$ solve for $\pi$	9. $D = \frac{mv}{v}$ solve for $m$

# Multi-Step Problems

## Hints to help:



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

<p><b>10.</b> <math>A = \frac{1}{2}bh</math> solve for <math>h</math></p>	<p><b>11.</b> <math>V = \frac{1}{3}Bh</math> solve for <math>B</math></p>	<p><b>12.</b> <math>K = \frac{mv^2}{2}</math> solve for <math>m</math></p>
<p><b>13.</b> <math>a = \frac{b+c}{d}</math> solve for <math>b</math></p>	<p><b>14.</b> <math>P = 2L + 2W</math> solve for <math>W</math></p>	<p><b>15.</b> <math>Ax + By = C</math> solve for <math>y</math></p>
<p><b>16.</b> <math>y = mx + b</math> solve for <math>x</math></p>	<p><b>17.</b> <math>A = P + Prt</math> solve for <math>t</math></p>	<p><b>18.</b> <math>s = n(a + 1)</math> solve for <math>a</math></p>
<p><b>19.</b> Solve <math>C = \frac{5}{9}(F - 32)</math> for <math>F</math></p>		<p><b>20.</b> Solve <math>A = \frac{1}{2}h(b_1 + b_2)</math> for <math>b_1</math></p>

Name: \_\_\_\_\_

Unit 2: Equations

Date: \_\_\_\_\_

**Directions:** Solve each equation. **SHOW ALL STEPS!**

1.  $d = 2r$  solve for r

2.  $s = \frac{d}{t}$  solve for d

3.  $V = lwh$  solve for w

4.  $V = \pi r^2 h$  solve for  $\pi$

5.  $I = prt$  solve for r

6.  $E = mc^2$  solve for m

7.  $p = \frac{100a}{t}$  solve for a

8.  $V = \frac{1}{3}\pi r^2 h$  solve for h

9.  $y = mx + b$  solve for m

10.  $a = 2(b - c)$  solve for b

11.  $w = 4x + 9y$  solve for y

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