

1. $V = \frac{1}{3}Ah$ for h $V = \frac{1}{3}Ah$ $V = \frac{Ah}{3}$

(3) $V = \cancel{3} \frac{1}{\cancel{3}} Ah$

$$\frac{3V}{\cancel{A} \quad \cancel{A}} = \frac{Ah}{\cancel{A}}$$

$$\boxed{\frac{3V}{A} = h}$$

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1. $V = \frac{1}{3}Ah$ for h $V = \frac{1}{3}Ah \leftrightarrow V = \frac{Ah}{3}$

$3(V) = \cancel{3} \left(\frac{Ah}{\cancel{3}} \right) \quad \frac{3 \cdot Ah}{1 \cdot 3}$

$$\frac{3V}{\cancel{A} \quad \cancel{A}} = \frac{Ah}{\cancel{A}}$$

$$\boxed{\frac{3V}{A} = h}$$

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2. $P = R - C$ for C

$$\begin{array}{r} P = R - C \\ -R \quad -R \\ \hline P - R = -C \\ \hline \boxed{-P + R = C} \end{array}$$

$$\begin{array}{r} 10 = 5 - C \\ -5 \quad -5 \\ \hline 5 = -C \\ -5 = C \end{array}$$

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3. $2x + 7y = 14$ for y $20 + 7y = 100$

$$\begin{array}{r} 2x + 7y = 14 \\ -2x \quad -2x \\ \hline 7y = 14 - 2x \\ \hline y = \frac{14 - 2x}{7} \end{array}$$

$$y = \frac{14}{7} - \frac{2x}{7}$$

$$\boxed{y = 2 - \frac{2x}{7}}$$

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4. $\frac{m}{x} = k - 6$ for m Solve for w $\frac{W}{T} + 3 = N + 8$

$$\frac{m}{x} = k - 6$$

$$\cancel{x} \left(\frac{m}{\cancel{x}} \right) = \cancel{x} (k - 6)$$

$$\boxed{m = x(k - 6)}$$

$$\frac{W}{T} + 3 = N + 8$$

$$\frac{W}{T} = N + 5$$

$$\cancel{T} \left(\frac{W}{\cancel{T}} \right) = \cancel{T} (N + 5)$$

$$\boxed{W = T(N + 5)}$$

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5. $R = \frac{C - S}{t}$ for C

$$R = \frac{C - S}{t}$$

$$t(R) = t \left(\frac{C - S}{t} \right)$$

$$\begin{array}{r} tR = C - S \\ +S \quad +S \\ \hline tR + S = C \end{array}$$

$$\boxed{tR + S = C}$$

$$R = \frac{C - S}{t} \text{ for } C$$

$$\begin{array}{r} +S \quad +S \\ \hline R + S = \frac{C}{t} \\ t(R + S) = t \left(\frac{C}{t} \right) \\ \hline \boxed{t(R + S) = C} \end{array}$$

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$$\textcircled{1} \quad C = \frac{2\pi r}{2\pi} \quad \text{for } r$$

$$\frac{C}{2\pi} = r$$

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$$y = mx + b \quad \text{for } m$$

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

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

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$$P = R - C \quad \text{for } C$$

$$\frac{P-R}{-1} = \frac{-C}{-1}$$

$$-P + R = C$$

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3. $2x + 7y = 14$ for y

$$\frac{2x + 7y = 14}{-2x} \quad \frac{-2x}{-2x}$$

$$7y = -2x + 14$$

$$y = \frac{-2x + 14}{7}$$

$$y = -\frac{2x}{7} + \frac{14}{7}$$

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

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5. $R = \frac{C-S}{t}$ for C

$$R = \frac{C-S}{t} \quad \text{for } C$$

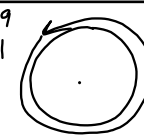
$$t(R) = t\left(\frac{C-S}{t}\right)$$

$$tR = \frac{C-S}{1}$$

$$tR + S = C$$

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p39 #1



$$C = \frac{2\pi r}{2\pi} \quad \text{for } r$$

$$\frac{C}{2\pi} = r$$

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$$\#2 \quad y = mx + b \quad \text{for } m$$

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

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

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$$3) \quad 4c = d \quad \text{for } c$$

$$c = \frac{d}{4}$$

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$$4) \quad n - 6m = 8 \quad \text{for } n$$

$$\frac{n - 6m + 6m}{+6m + 6m} = \frac{8 + 6m}{+6m + 6m}$$

$$n = 6m + 8$$

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$$5) \quad 2p + 5r = 8 \quad \text{for } p$$

$$\frac{2p + 5r - 5r}{-5r - 5r} = \frac{8 - 5r}{-5r - 5r}$$

$$p = \frac{-5r + 8}{2} \quad \text{OR} \quad p = \frac{8 - 5r}{2}$$

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$$6) \quad -10 = xy + z \quad \text{for } x$$

$$\frac{-z - 10}{y} = \frac{xy + z - z}{y}$$

$$x = \frac{-z - 10}{y}$$

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$$8) \quad \frac{h-4}{j} = k \quad \text{for } j$$

$$j(h-4) = jk$$

$$\frac{h-4}{k} = \frac{j}{k}$$

$$j = \frac{h-4}{k}$$

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$$\begin{aligned}
 & \text{9) } C = 5p + 215 \quad \text{for } p \\
 & \begin{array}{r} -215 \\ \hline C - 215 = 5p \\ \hline \frac{C - 215}{5} = \frac{5p}{5} \\ \frac{C}{5} - \frac{215}{5} = p \\ \frac{C}{5} - 43 = p \end{array} \\
 & \text{b) } \frac{300}{5} - 43 = p \\
 & 60 - 43 = p \\
 & \boxed{17 = p}
 \end{aligned}$$

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$$\begin{aligned}
 & \text{10) } A = \frac{1}{2}bh \text{ or } A = \frac{bh}{2} \\
 & 2(A) = 2\left(\frac{1}{2}bh\right) \quad 2A = \cancel{2}\left(\frac{bh}{\cancel{2}}\right) \\
 & \frac{2A}{h} = \frac{bh}{h} \quad \boxed{b = \frac{2A}{h}}
 \end{aligned}$$

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Absolute Value Equations
 $|x| \neq$ Neg Number
NO SOLUTION

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$|x-3| = -40$
 No Solution $\textcircled{N/S}$

Sep 8-2:01 PM

Example

$$\begin{aligned}
 & -2|x+1| + 4 = -4 \\
 & \begin{array}{r} -4 \quad -4 \\ \hline -2|x+1| = -8 \\ \hline \frac{-2|x+1|}{-2} = \frac{-8}{-2} \\ |x+1| = 4 \\ \begin{array}{l} x+1 = 4 \quad x+1 = -4 \\ \hline -1 \quad -1 \quad \hline -1 \quad -1 \\ \hline x = 3 \quad x = -5 \end{array} \\ \hline \boxed{\{-5, 3\}} \end{array}
 \end{aligned}$$

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Absolute Value = Solving

1. Isolate $|x|$
 \approx Adding or Subtracting
 \approx Multiply or Divide
2. Remove Bars
3. Set what was inside bars equal to $\begin{cases} + \# \\ - \# \end{cases}$
4. Solve

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1. $|x|=12$
 $x=12 \quad x=-12 \quad \{-12, 12\}$

3. $|x|-6=4$
 $\begin{array}{r} +6 \quad +6 \\ \hline |x|=10 \end{array}$
 $x=10 \quad x=-10$

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5. $3|x|=24$
 $\begin{array}{r} 3 \\ \hline |x|=8 \end{array}$
 $x=8 \quad x=-8$

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6. $|x+3|=10$
 $\begin{array}{r} x+3=10 \\ -3 \quad -3 \\ \hline x=7 \end{array} \quad \begin{array}{r} x+3=-10 \\ -3 \quad -3 \\ \hline x=-13 \end{array}$

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7. $|x-1|=2 \quad \{-1, 3\}$
 $\begin{array}{r} x-1=2 \\ +1 \quad +1 \\ \hline x=3 \end{array} \quad \begin{array}{r} x-1=-2 \\ +1 \quad +1 \\ \hline x=-1 \end{array}$

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8. $4|x-5|=12$ $4(x-5)$
 $\begin{array}{r} 4 \\ \hline |x-5|=3 \end{array} \quad \{2, 8\}$
 $\begin{array}{r} x-5=3 \\ +5 \quad +5 \\ \hline x=8 \end{array} \quad \begin{array}{r} x-5=-3 \\ +5 \quad +5 \\ \hline x=2 \end{array}$

Sep 8-2:14 PM

9. $|x+2|-3=9$
 $\begin{array}{r} +3 \quad +3 \\ \hline |x+2|=12 \end{array}$
 $\begin{array}{r} x+2=12 \\ -2 \quad -2 \\ \hline x=10 \end{array} \quad \begin{array}{r} x+2=-12 \\ -2 \quad -2 \\ \hline x=-14 \end{array}$

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10) $|6x| = 18$

$$\frac{6x}{6} = \frac{18}{6} \quad \frac{6x}{6} = \frac{-18}{6}$$

$$x = 3 \quad x = -3$$

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11) $|x-1| = 0$

$$x-1 = 0$$

$$\begin{array}{r} +1 \quad +1 \\ \hline x = 1 \end{array}$$

12) $|x-3| + \frac{x}{2} = 5$

$$\begin{array}{r} x-3 + \frac{x}{2} = 5 \\ \frac{x-3}{2} + \frac{x}{2} = 5 \\ \frac{x-3+x}{2} = 5 \\ \frac{2x-3}{2} = 5 \\ \frac{2x-3}{2} \cdot 2 = 5 \cdot 2 \\ 2x-3 = 10 \\ 2x-3+3 = 10+3 \\ 2x = 13 \\ \frac{2x}{2} = \frac{13}{2} \\ x = 6.5 \end{array}$$

Sep 8-2:27 PM

Blank box for solving for x.

Sep 8-1:49 PM

6 $-10 = xy + z$ for x

$$\frac{-10-z}{y} = \frac{xy}{y}$$

$$x = \frac{-10-z}{y}$$

Sep 8-8:12 AM

7 $\frac{a}{b} = c$ for b

$$b\left(\frac{a}{b}\right) = b(c)$$

$$\frac{a}{c} = \frac{bc}{c}$$

$$b = \frac{a}{c}$$

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10) $A = \frac{1}{2}bh$ or $A = \frac{bh}{2}$

Solve for b

$$2(A) = 2\left(\frac{1}{2}bh\right)$$

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

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

b) $\frac{2(192)}{12} = b$

$$32 = b$$

Sep 8-8:16 AM

p40 1) $d = rt$ for r

$$\frac{d}{t} = r$$

2) $\frac{400}{43.84} = r$

$$\boxed{9.1 \text{ m/s}}$$

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3) $\text{rate} = \frac{\text{distance}}{\text{time}}$
(speed)

$$r = \frac{110}{13} = \boxed{8.7 \text{ m/s}}$$

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4 $r = \frac{d}{t}$

1996 Johnson 19.32

Kenteris 20.09

$$\frac{8.35}{9.96} = \frac{200}{20.09} \cdot \frac{200}{19.32}$$

$$.39 \approx \boxed{.4}$$

9.6 9.6 10.35

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Absolute Value Equations

- ① Isolate $|x|$
 - 1st add or subtract
 - 2nd mult. or Divide
- ② Remove $| |$
- ③ Set what is inside $| | = \begin{matrix} +\# \\ \text{and} \\ -\# \end{matrix}$
- ④ Solve

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* If $|x| = -\#$

No Solution

Ex $|x-5| = -12$

N/S

Sep 8-8:39 AM

p40 #1 Ex $-2|x+1| + 4 = -4$

① subtract $-4 -4$

$$\frac{-2|x+1|}{-2} = \frac{-8}{-2}$$

② Divide

$$|x+1| = 4$$

③ Remove Bars $\{ -5, 3 \}$

$$\begin{array}{r} x+1 = 4 \\ -1 -1 \\ \hline x = 3 \end{array} \quad \begin{array}{r} x+1 = -4 \\ -1 -1 \\ \hline x = -5 \end{array}$$

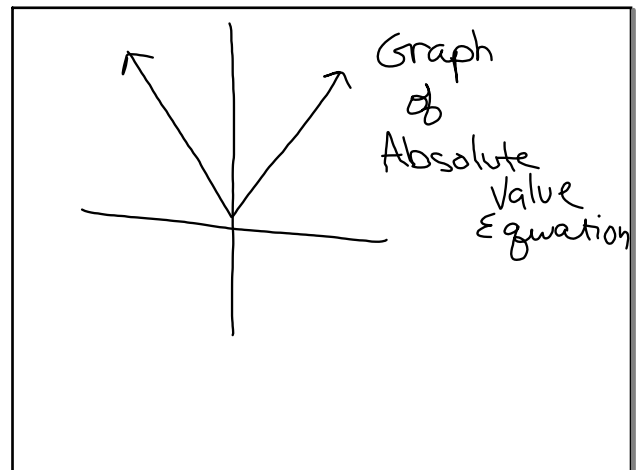
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⑥ $|x+3| = 10$ $\{-13, 7\}$

$$\begin{array}{r} x+3 = 10 \\ -3 \quad -3 \\ \hline x = 7 \end{array}$$

$$\begin{array}{r} x+3 = -10 \\ -3 \quad -3 \\ \hline x = -13 \end{array}$$

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Sep 8-8:48 AM

Ex $|x-1| = 3$

x	y
0	

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