

BE-1A MONDAY 10-19-09

SOLVE:

$$\textcircled{1} \frac{x}{5} = 15$$

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

③ How would ^{you} solve:

$$4(2x+6) = 8$$

$$\begin{array}{l} \textcircled{3} \quad 4(2x+6) = 8 \\ \quad 8x + 24 = 8 \\ \quad \quad -24 \quad -24 \\ \quad \quad \frac{8x}{8} = \frac{-16}{8} \\ \quad \quad \boxed{x = -2} \end{array} \quad \left. \begin{array}{l} \text{ck} \\ 4[2(-2)+6] \stackrel{?}{=} 8 \\ 4[-4+6] \stackrel{?}{=} 8 \\ 4[2] \stackrel{?}{=} 8 \\ 8 = 8 \checkmark \end{array} \right\}$$

Sign Rules

$\boxed{+ \text{ or } -}$

- SSA, KSS
- DSS, BOW
- $-(-) = +$

$\boxed{\bullet}$

- SP DN

$\boxed{\div}$

- SP DN

Fraction Rules

$\boxed{+ \text{ or } -}$

- Common Denominator

$\boxed{\bullet}$

- Top times top
bottom times bottom

$\boxed{\div}$

- Flip ; multiply

WHAT about:

$$2(x+6) - x + 5 = 9$$

$$2(x+6) - x + 5 = 9$$

$$2x + 12 - x + 5 = 9$$

$$x + 17 = 9$$

$$\begin{array}{r} -17 \end{array}$$

$$\boxed{x = -8}$$

$$\underline{\underline{CK}} \quad 2(-8+6) - (-8) + 5 \stackrel{?}{=} 9$$

$$2(-2) + 8 + 5 \stackrel{?}{=} 9$$

$$-4 + 8 + 5 \stackrel{?}{=} 9$$

$$4 + 5 \stackrel{?}{=} 9 \quad \checkmark$$

RECALL THIS DEFINITION:

Simplify

- get terms OUT OF PARENTHESES
- combine all "like" terms

When solving equations, simplify
the left side AND right side
BEFORE STARTING ANY "UNDOS"

① {Simplify} = {Simplify}

② GET VARIABLE by itself.

WHAT IS DIFFERENT ABOUT THIS EQUATION FROM ANY WE HAVE SOLVED SO FAR?

$$5x + 2 = 3x + 8$$



- X is on BOTH sides.

- GET THOSE TOGETHER WITH UNDOES FIRST.

$$\begin{array}{rcl} 5x + 2 & = & 3x + 8 \\ -3x & & -3x \end{array}$$

$$\begin{array}{rcl} 2x + 2 & = & 8 \\ -2 & & -2 \end{array}$$

$$\frac{2x}{2} = \frac{6}{2}$$

$$\boxed{x = 3}$$

You HAVE CHOICES, THEY BOTH WORK SO
choose the UNDO without NEGATIVES:

$ \begin{array}{rcl} 5x + 2 & = & 3x + 8 \\ -3x & & -3x \\ \hline 2x + 2 & = & 8 \\ -2 & & -2 \\ \hline 2x & = & 6 \\ \frac{2x}{2} & = & \frac{6}{2} \\ \boxed{x = 3} \end{array} $	$\left. \begin{array}{c} \{ \\ \} \end{array} \right\}$	$ \begin{array}{rcl} 5x + 2 & = & 3x + 8 \\ -5x & & -5x \\ \hline 2 & = & -2x + 8 \\ -8 & & -8 \\ \hline -6 & = & -2x \\ \frac{-6}{-2} & = & \frac{-2x}{-2} \\ \boxed{+3 = x} \end{array} $
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CK

$$\begin{array}{rcl}
 5x + 2 & \stackrel{?}{=} & 3x + 8 \\
 5() + 2 & \stackrel{?}{=} & 3() + 8 \\
 5(3) + 2 & \stackrel{?}{=} & 3(3) + 8 \\
 15 + 2 & \stackrel{?}{=} & 9 + 8 \\
 17 & \stackrel{?}{=} & 17 \quad \checkmark
 \end{array}$$

Putting Everything Together:

Solving Equations: ① Simplify

Use GRE

② Get VARIABLE
ON 1 SIDE

③ Get VARIABLE
by itself

Ch. 3-5 Soln. Eg WITH VARIABLE ON EACH SIDE

EX1
Pg 149

$$\begin{array}{rcl} -2 + 10p & = & 8p - 1 \\ & -8p & -8p \end{array}$$

$$\begin{array}{rcl} -2 + 2p & = & -1 \\ +2 & & +2 \end{array}$$

$$\frac{2p}{2} = \frac{1}{2}$$

$$\boxed{p = \frac{1}{2}}$$

CK $-2 + 10(\frac{1}{2}) \stackrel{?}{=} 8(\frac{1}{2}) - 1$ ✓

$$\textcircled{\text{Ex}} \quad 20c + 5 = 5c + 65$$

$$\textcircled{\text{Ex}} \quad 3(a-5) = -6$$

$$\textcircled{\text{Ex}} \quad 75 - 9x = 5(-4 + 2x)$$

Homework: Pg 152 # 16-19
