

# Warmup 11/ (*Solution of $\frac{x-3}{5} = 2$* )

- 1) Create an equation that has a solution of -5. Your equation can be as simple or as complex as you want.
- 2) Number your paper 2 – 7 (one line each). These will be on the next few slides.

2) Which step is right?

$$8x + 2x = 50$$

$$\begin{array}{r} 8x + 2x = 60 \\ -2x \quad -2x \\ \hline 6x \quad = 60 \end{array}$$

**A**

$$\begin{array}{r} 8x + 2x = 60 \\ 10x = 60 \end{array}$$

**B**

3) Which step is right?

$$4x - 9 = x - 12$$

$$\begin{array}{r} 4x - 9 = x - 12 \\ -x \quad \quad -x \\ \hline 3x - 9 = -12 \end{array}$$

**A**

$$\begin{array}{r} 4x - 9 = x - 12 \\ +x \quad \quad +x \\ \hline 5x - 9 = -12 \end{array}$$

**B**

4) Which step is right?

$$-4(x - 10) = 36$$

A.  $-4x - 40 = 36$

B.  $-4x + 40 = 36$

C.  $-4x - 10 = 36$

5) Which step is right?

$$-14 + 4x = 6x + 7$$

$$\begin{array}{r} -14 + 4x = 6x + 7 \\ \quad -4x \quad -4x \\ \hline -14 \qquad = 2x + 7 \end{array}$$

**A**

$$\begin{array}{r} -14 + 4x = 6x + 7 \\ -14 \quad = 10x + 7 \end{array}$$

**B**

6) Which step is right?

$$10 + 2(3x - 4) = 20$$

$$\textcircled{10} + \textcircled{2}(3x - 4) = 20$$

$$12(3x - 4) = 20$$

$$36x - 48 = 20$$

**A**

$$10 + 2(3x - 4) = 20$$

$$\textcircled{10} + 6x \textcircled{-8} = 20$$

$$6x + 2 = 20$$

**B**

# 7) Which steps are right?

$$-3x + 14 = 10x + 6 - 8x$$

$$\begin{array}{r} -3x + 14 = 10x + 6 - 8x \\ +8x \qquad \qquad \qquad +8x \\ \hline \end{array}$$

**A**

$$5x + 14 = 10x + 6$$

$$(-3x) + 14 = (10x) + 6 - 8x$$

**C**

$$7x + 14 = 6 - 8x$$

$$\begin{array}{r} -3x + 14 = 10x + 6 - 8x \\ \qquad \qquad \qquad +8x \qquad \qquad +8x \\ \hline \end{array}$$

**B**

$$-3x + 14 = 18x + 6$$

$$-3x + 14 = (10x) + 6 - (8x)$$

**D**

$$-3x + 14 = 2x + 6$$

# QUIZ FRIDAY:

- 2-step equations
- Equations with variables on both sides
- Combining Like Terms
- Distributive Property
- Equations with fractions
- Checking your solution



# Don't forget:

- The retake deadline for the Linear Quiz (the one with tasks) is less than a week away! – Tues, 11/19
- To be eligible, you must do quiz corrections using the blue sheet and complete the extra practice.
- It is pretty hard to pass the class if you have quiz grades below ~60%!

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<b>p. 15</b>	<b>Equations w/ Distributive Property</b>

Solve:

$$3(x + 8) = 18$$

$$\begin{array}{r} 3x + 24 = 18 \\ -24 \quad -24 \\ \hline \end{array}$$

$$\frac{3x}{3} = \frac{-6}{3}$$

$$x = -2$$

Solve:

$$3(x - 4) = x + 8$$

$$\begin{array}{r} 3x - 12 = x + 8 \\ -x \qquad \quad -x \\ \hline \end{array}$$

$$\begin{array}{r} 2x - 12 = +8 \\ +12 \qquad +12 \\ \hline \end{array}$$

$$2x = 20$$

$$\boxed{x = 2}$$

$$4(2n + 3) = 20$$

- What does the **(2n + 3)** part have to equal???

5

# From the pretest:

$$4(2n + 3) = 20$$

2 ways to solve:

$$\frac{4(2n + 3)}{4} = \frac{20}{4}$$

$$4$$

$$4$$

$$2n + 3 = 5$$

$$-3$$

$$-3$$

$$\hline$$

$$2n = 2$$

$$n = 1$$

$$4(2n + 3) = 20$$

$$8n + 12 = 20$$

$$-12$$

$$-12$$

$$\hline$$

$$8n = 8$$

$$n = 1$$

# For your notes:

$$6(3x - 2) = 24$$

1. Solve by distributing first:

$$\begin{array}{r} 6(3x - 2) = 24 \\ 18x - 12 = 24 \\ \quad +12 \quad +12 \\ \hline 18x = 36 \quad \boxed{x=2} \\ \frac{18x}{18} \end{array}$$

2. Solve by dividing by 6 first:

$$\begin{array}{r} 6(3x - 2) = 24 \\ \hline 6 \qquad 6 \\ 3x - 2 = 4 \\ \quad +2 \quad +2 \\ \hline 3x = 6 \quad \boxed{x=2} \end{array}$$

# Whiteboards!



Solve:

$$-2(4x - 1) = 34$$

$$-8x + 2 = 34$$

$$\begin{array}{r} -2 \quad -2 \\ \hline \end{array}$$

$$\frac{-8x}{-8} = \frac{32}{-8}$$

$$\boxed{x = -4}$$

$$x = -4$$

Solve:

$$10(3y - 2) - 20y = 70$$

$$\boxed{30y} - 20 \boxed{-20y} = 70$$

$$\begin{array}{r} 10y - 20 = 70 \\ +20 \quad +20 \\ \hline \end{array}$$

$$10y = 90$$

$$\boxed{y = 9}$$

$$y = 9$$

$$15 \times \frac{2}{5} = \frac{30}{5} = 6$$

Solve:

$$6 \times \frac{2}{3} = \frac{12}{3} = 4$$

$$15 \left( \frac{2}{5}x + 1 \right) = 6 \left( \frac{2}{3}x + 5 \right)$$

$$\begin{array}{rcl} 6x + 15 & = & 4x + 30 \\ -4x & & -4x \end{array}$$

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$$\begin{array}{rcl} 2x + 15 & = & 30 \\ -15 & & -15 \end{array}$$

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$$\frac{2x}{2} = \frac{15}{2} \quad \boxed{x = \frac{15}{2}}$$

$$x = 7.5$$

Solve:

$$10 - 4(2b - 9) = 3(b + 4) - 12b$$

$$\boxed{10} - 8b + \boxed{36} = \boxed{3b} + 12 - 12b$$

$$\begin{array}{rcl} 46 - 8b & = & -9b + 12 \\ + 9b & & + 9b \end{array}$$

$$\begin{array}{rcl} 46 + b & = & 12 \\ - 46 & & - 46 \end{array}$$

$$\boxed{b = -34}$$

$$b = -34$$

# Solve:

$$3(-x + 8) = \left(\frac{x}{3}\right)^3$$

$$-3x + 24 = x$$

$$+3x$$

$$+3x$$

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$$24 = 4x$$

$$\boxed{6 = x}$$

$$x = 6$$

# Homework:

- **Same as yesterday**