Warmup 11/ $\left(Solution\ of\ \dfrac{x-3}{5} = 2 \right)$

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.
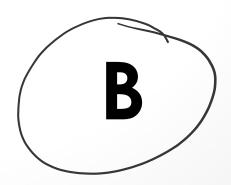
2) Which step is right?

$$8x + 2x = 50$$

$$8x + 2x = 60$$
$$-2x \quad -2x$$
$$\overline{6x \quad\quad = 60}$$

$$8x + 2x = 60$$
$$10x = 60$$

A

B

3) Which step is right?

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

$4x - 9 = x - 12$	$4x - 9 = x - 12$
$-x \qquad -x$	$+x \qquad +x$
$3x - 9 = -12$	$5x - 9 = -12$

A **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?

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

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

$\, -4x \quad -4x$

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$-14 = 2x + 7$

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

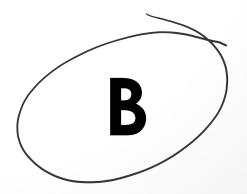$-14 = 10x + 7$

A

B

6) Which step is right?

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

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

$12(3x - 4) = 20$

$36x - 48 = 20$

A

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

$10 + 6x - 8 = 20$

$6x + 2 = 20$

B

7) Which steps are right?

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

A

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

$+8x \qquad\qquad +8x$

$5x + 14 = 10x + 6$

B

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

$\qquad\qquad +8x \qquad +8x$

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

C

$7x + 14 = 6 - 8x$

D

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

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

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%!**

Table of Contents

Solve:

3(x + 8) = 18

$$3x + 24 = 18$$
$$-24 \quad -24$$

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

$$\boxed{x = -2}$$

Solve:

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

$$3x - 12 = x + 8$$
$$\underline{-x \qquad\qquad -x}$$
$$2x - 12 = +8$$
$$\underline{+12 \qquad +12}$$
$$2x = 20$$
$$\boxed{x = 2}$$

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:

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

$$2n + 3 = 5$$

$$\underline{ -3 \quad\quad -3}$$

$$2n \quad = 2$$

$$n = 1$$

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

$$8n + 12 = 20$$

$$\underline{-12 \quad\quad -12}$$

$$8n \quad = 8$$

$$n = 1$$

For your notes:

6(3x − 2) = 24

1. Solve by distributing first:

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

$$18x - 12 = 24$$
$$+12 \quad +12$$
$$\frac{18x}{18} = \frac{36}{18}$$

$$\boxed{x = 2}$$

2. Solve by dividing by 6 first:

$$\frac{6(3x - 2)}{6} = \frac{24}{6}$$

$$3x - 2 = 4$$
$$+2 \quad +2$$
$$3x = 6$$

$$\boxed{x = 2}$$

Whiteboards!

Solve:

-2(4x − 1) = 34

$$-8x + 2 = 34$$
$$ -2 \quad -2$$
$$\frac{-8x}{-8} = \frac{32}{-8}$$

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

x = -4

Solve:

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

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

$$10y - 20 = 70$$
$$\ +20 \quad +20$$
$$\overline{}$$
$$10y = 90$$

$$\boxed{y = 9}$$

y = 9

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

Solve:

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

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

$6x + 15 = 4x + 30$

$-4x \qquad\qquad -4x$

$2x + 15 = 30$

$\qquad -15 \qquad -15$

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

x = 7.5

Solve:

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

$$10 - 8b + 36 = 3b + 12 - 12b$$

$$46 - 8b = -9b + 12$$
$$ +9b \qquad +9b$$
$$\overline{}$$
$$46 + b = \qquad 12$$
$$-46 \qquad\qquad -46$$
$$\overline{}$$
$$\boxed{b = -34}$$

b = -34

Solve:

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

$$-3x + 24 = x$$

$$+3x \qquad\qquad +3x$$

$$24 = 4x$$

$$\boxed{6 = x}$$

$$\textcolor{blue}{x = 6}$$

Homework:

- **Same as yesterday**