

EQUATIONS





2 variable terms on the SAME SIDE:

- Combine like terms

2 variable terms on OPPOSITE SIDES:

- “Get rid” of one of them: add or subtract the x’s on both sides the same way you do with regular numbers

IF YOU KEEP STRUGGLING WITH THESE...

I am always going to go back to the picture. The pictures really help explain why you solve these the way you do!

WHITEBOARDS

$$\frac{x}{5} + 2 = 22$$

$$\begin{array}{ccc} & -2 & -2 \\ \hline \end{array}$$

$$\frac{5}{1} \cdot \frac{x}{5} = 20 - 5$$

$$x = 100$$

Early finishers: Check your answer! How do I ^{do} that?

WHITEBOARDS

$$3x + 2x = 45$$

$$5x = 45$$

$$x = 9$$

Early finishers: Check your answer! How do I ^{do} that?

WHITEBOARDS

$$4x = 2x + 18$$
$$-2x \quad -2x$$

$$2x = 18$$

$$x = 9$$

Early finishers: Check your answer!

WHITEBOARDS

$$\begin{array}{r} 8x + 4 = 2x + 28 \\ -2x \qquad -2x \\ \hline 4x + 4 = 28 \\ -4 \qquad -4 \\ \hline 4x = 24 \\ \hline x = 6 \end{array}$$

Early finishers: Check your answer!

WHITEBOARDS

$$-3(-1) + 16 = -1 + 20$$

$$3 + 16 = -1 + 20$$

$$19 = 19 \checkmark$$

$$\begin{array}{r} -3x + 16 = x + 20 \\ -x \qquad \qquad -x \end{array}$$

$$\begin{array}{r} -4x + 16 = 20 \\ -16 \quad -16 \end{array}$$

$$\begin{array}{r} -4x = 4 \\ \hline -4 \end{array}$$

$$x = -1$$

Early finishers: Check your answer!

WHITEBOARDS

$$\textcircled{2x} + 9 + \textcircled{5x} + 8 = 24$$

$$7x + 17 = 24$$

$$7x = 7$$

$$\textcircled{x=1}$$

Early finishers: Check your answer!

WHITEBOARDS

$$5x - 8 = x + 5$$

$$+8 \qquad +8$$

$$5x = x + 13$$

$$4x = 13$$

$$x = \frac{13}{4} \text{ or } 3.25 \text{ or } 3\frac{1}{4}$$

Early finishers: Check your answer!

WHITEBOARDS

$$2x + 7 = 5x + 35$$

-7

-7

$$2x = 5x + 28$$

-5x

-5x

$$-3x = 28$$

$$x = -9\frac{1}{3}$$

$$x = -\frac{28}{3}$$
$$x = -9\frac{1}{3}$$

Early finishers: Check your answer!

SOME FOR YOUR NOTES:

SOLVE AND CHECK:

$$-3x + 31 = 2x + 6$$

SOME FOR YOUR NOTES...

SOLVE

$$5x + 10 - 3x = 12 - 4x - 44$$

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

2 ways to solve:

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

$$2n + 3 = 5$$

$$\frac{-3 \quad -3}{2n = 2}$$

$$2n = 2$$

$$n = 1$$



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

$$8n + 12 = 20$$

$$\frac{-12 \quad -12}{8n = 8}$$

$$8n = 8$$

$$n = 1$$


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


1. Solve by distributing first:

$$18x - 12 = 24$$
$$+ 12 \quad + 12$$

$$18x = 36$$

$$x = 2$$

2. Solve by dividing by 6 first:

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

$$3x - 2 = 4$$

$$3x = 6$$

$$x = 2$$


SOLVE:

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

2

$$x - 4 = 2x + 4$$

SOLVE:

$$10 - 4(2x - 9) = 30$$

$$10 - 8x + 36 = 30$$

$$46 - 8x = 30$$

$$-8x = -16$$

$$x = 2$$

FRACTIONS???

$$-\frac{4}{3} \cdot -\frac{3}{4}x = 21 \cdot -\frac{4}{3}$$

$x = -28$

$$\frac{2}{5}x - 10 = 20$$

$$+10 \quad +10$$

$$\frac{5}{2} \cdot \frac{2}{5}x = 30 \cdot \frac{5}{2}$$

$$x = \frac{150}{2}$$

$x = 75$



HOMework

Worksheet