| Created by Mr. Lischwe <br> WARM UP $10 /(-8-(-28))$ |  |
| :---: | :---: |
|  |  |
| Can you solve each equation? |  |
| 1) $3 x-5=-23$ |  |
| 2) $x+8=2 \mathrm{x}$ |  |
| 3) $3 x+10=5 x$ |  |

## Pretest Results

Question 1: 79 out of 82 (96\%)
Question 2: 77 out of 82
(94\%)

Question 3: 75 out of 82
(91\%)

Question 4: 71 out of 82
(87\%)

## Pretest Results

Question 5: 40 out of 82
(49\%)

Question 6: 72 out of 82
(88\%)

Question 7: 54 out of 82
(66\%)

Question 8: 43 out of 82
(52\%)

## Pretest Results

Question 9: 16 out of 82 (20\%)

Question 10: 6 out

Question 11: 40 out of 82
(49\%)

Question 12: 10 out of 82
(12\%)

## What does the data tell us?

| Strengths: | Weaknesses |
| :--- | :--- |
| - We understand the CORE idea that | . We still don't like fractions |
| the solution to an equation is "the | . We don't like negative numbers |
| number you substitute for the variable | We're not sure of what to do when |
| to make the equation true" | there are variables on both sides |
| - Solving 1 and 2-step equations |  |
| - More of you remembered the |  |
| distributive property than I expected |  |

## Checking in on Basic Skills

- We are going to play jeopardy again
- This will not be in teams - this is individual.
- I will be checking on your negative number + fraction skills.
- You will use the handout to keep track of your own score. There is no prize for the winner. Keeping an accurate total of your score will help me determine where everyone's skill level is at!

We will start with one of our weaknesses...

## - EQUATIONS WITH FRACTIONS

Everyone needs a whiteboard!!!

First, let's review normal 1-step equations...

$$
\text { 1. } \begin{aligned}
\frac{3 x}{3} & =\frac{12}{3} \\
1 x & =4 \\
x & =4
\end{aligned}
$$



Equations with a fraction?

$$
\begin{aligned}
\frac{2}{\frac{3}{2}} x=\frac{6}{\frac{2}{3}} & 6 \div \frac{2}{3} \\
1 x & =? \\
x=9 & =\frac{3}{2} \\
x & =9
\end{aligned}
$$

## CHECK

$\cdot \frac{2}{3} x=6$
$-\frac{2}{3}(9)=6$ ?
$\cdot \frac{18}{3}=6$
$\cdot 6=6$

- It works!


## Faster way:

When there's a fraction in front of the variable...

$$
\begin{gathered}
\frac{2}{3} x=6 \\
\frac{3}{2} \cdot \frac{2}{3} x=6 \cdot \frac{3}{2} \\
1 x=9 \\
x=9
\end{gathered}
$$

Try these:

1. $\frac{1}{6} x=12$
$x=72$
2. $-\frac{4}{3} x=20$
$x=-15$
3. $\frac{15}{8}=\frac{5}{2} x$
$x=\frac{3}{4}$

Mixed Numbers...

$$
\begin{aligned}
1 \frac{5}{6} x & =16 \frac{1}{2} \\
\frac{11}{6} x & =\frac{33}{2} \\
\frac{6}{11} \cdot \frac{11}{6} x & =\frac{33}{2} \cdot \frac{6}{11} \\
x & =9
\end{aligned}
$$

## What did we learn?

- To solve an equation, you are trying to get $\mathbf{1 x}$.
- When you have a coefficient that is a fraction, you can "get rid" of it by multiplying by the reciprocal.
- THIS IS BECAUSE ANY FRACTION TIMES ITS RECIPROCAL IS 1!!!
- If you have mixed numbers, you should change them into improper fractions to make them easier to deal with.


## Homework

-Textbook p. 115 (1-9 odd)

