Math Warm Up

Thursday
$$3(x-1)-8=4(1+x)+5$$
 My Thinking Correct/Compare

Thursday
$$3(x-1)-8=4(1+x)+5$$
 My Thinking Correct/Compare $x=-20$

Objective

TSW

- Understand and identify linear equations with no solution.
- Understand and identify linear equations with infinitely many solutions



Linear equations
can be used to solve
mathematical and realworld problems. A linear
equation with one variable
can have one solution, no
solution, or infinitely many
solutions.

Common Core State Standards 8.EE.7a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solution

Mathematical Practices 1 Solve problems/persevere 2 Reason 4 Model Mathematics 7 Look for and use structure

Der- An equation with one solution	Content	Consistent Equations
Dec- An equation that is always true no matter what value is plugged in for the variable. Infinite solutions:	Vocabulary = Words	Identity
Def-An equation with ho solution	Match definition of vocabulary words with meaning	Inconsistent Equation

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer. 2(x-1)+3=2x+1

*Write these examples in Math Notebook

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer.

$$2(x-1) + 3 = 2x + 1$$

$$4) 2(x-1) + 3 = 2x + 1$$

$$2(x-1) + 3 \stackrel{?}{=} 2x + 1$$

$$? ? + 3 ² 2x + 1$$
 Use the distributive property. $2x$; $-$; 2
$$? ² 2x + 1$$
 Combine like terms. $2x + 1$

Combine like terms.
$$2x + 1$$

$$? \stackrel{?}{=} 2x + 1 - ?$$
Subtract $\stackrel{?}{=}$ from both sides. $2x + 1 - 2x$; $2x$; $2x$

Because $\frac{?}{?} = \frac{?}{?}$, the equation has $\frac{?}{?}$ solution(s). The equation is a(n) $\frac{?}{?}$.

1; 1; infinitely many; identity

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer.

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

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer.

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

Since 1 ≠ 3, the equation has no solution. So, the equation is inconsistent.

Your Turn

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer. 6(x + 5) - 10 = 3(2x - 3)

2 minute Commercial Break



Decide...

Partner Chihuahua

(Taco Bell)

Partner Ronald

(McDonald)

2 minute Commercial Break



Think about what you will say for 10 seconds before discussing..

Chihuahua (Taco Bell)
Tell if the equation is inconsistent,
consistent, or identity.
Be sure to explain if no solution, one solution, or infinite number of solutions

Partner McDonald-

Praise or Coach
*I like how you
showed this equation
was inconsistent,
consistent, identity

Your Turn

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Justify your answer. 6(x + 5) - 10 - 3(2x - 6)

$$6(x + 5) - 10 = 3(2x - 3)$$

$$6(x+5) - 10 = 3(2x-3)$$

$$6(x + 5) - 10 \stackrel{?}{=} 3(2x - 3)$$

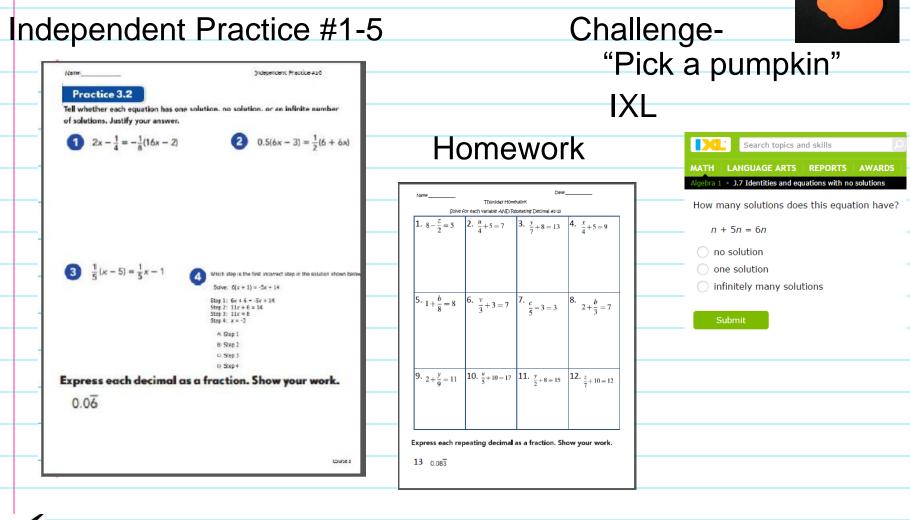
? ?
$$?$$
 - 10 $\stackrel{?}{=}$? ? $?$ Use the distributive property. $6x$; +; 30; $6x$; -; 9

?
$$\stackrel{?}{=}$$
 ? Combine like terms. $6x + 20$; $6x - 9$

?
$$\stackrel{?}{=}$$
 ? Subtract $\stackrel{?}{=}$ from both sides. $\frac{6x + 20 - 6x}{}$;

? ? ? Simplify. 20;
$$\neq$$
; -9 $6x - 9 - 6x$; $6x$

20;
$$\neq$$
; -9; no; inconsistent equation



Lesson Check —#2 Tell whether each equation has one solution, no solution or infinite number of solutions.