Warm Up 9/27/18

Simplify:

1. $-12(x + 5) - 1(3x + 9)$

$-12x \quad \boxed{-60} \quad -3x \quad \boxed{-9}$

$\boxed{-15x - 69}$

2. $-5 + 18 - 4$

$13 - 4$

$\boxed{9}$

3. $-8(9)$

-72

Solve:

4. $-5(x + 2) = -40$

$-5x - \cancel{10} = -40$

$\cancel{+10} \quad +10$

$\frac{-5x}{-5} = \frac{-30}{-5}$

$\boxed{x = 6}$

5. $8y + 3 = -3y - 4 + 11y$

$\cancel{8y} + 3 = \cancel{8y} - 4$

$-\cancel{8y} \quad -\cancel{8y}$

$3 = -4$

$\boxed{\emptyset}$

Ideas/Questions	Notes	VARIABLES ON BOTH SIDES Equations
Steps	1	Distribute / Combine
	2	Move variables to the left side
	3	Solve (+/− then x/÷)

Examples

ANSWERS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

1. $5y - 8 = 3y + 12$

$-3y \quad -3y$

$2y - 8 = 12$

$+8 \quad +8$

$\frac{2y}{2} = \frac{20}{2}$

$\boxed{y = 10}$

2. $-6x + 14 = 12 - 8x$

$+8x \quad +8x$

$2x + 14 = 12$

$-14 \quad -14$

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

$\boxed{x = -1}$

3. $7k = 3k - 36$

$-3k \quad -3k$

$\frac{4k}{4} = \frac{-36}{4}$

$\boxed{k = -9}$

4. $15 - m = 22 - 8m$

$+8m \quad +8m$

$15 + 7m = 22$

$-15 \quad -15$

$\frac{7m}{7} = \frac{7}{7}$

$\boxed{m = 1}$

5. $12 - 2u = 9u + 45$

$-9u \quad -9u$

$12 - 11u = 45$

$-12 \quad -12$

$\frac{-11u}{-11} = \frac{33}{-11}$

$\boxed{u = -3}$

6. $4(2w - 1) = -10(w - 5)$

$8w - 4 = -10w + 50$

$+10w \quad +10w$

$18w - 4 = 50$

$+4 \quad +4$

$\frac{18w}{18} = \frac{54}{18}$

$\boxed{w = 3}$

No Solution:	Infinite Solution:
$-4(2x + 1) = -8x - 2$ $-8x - 4 = -8x - 2$ $+8x \quad +8x$ $-4 = -2$ $\varnothing$	$-5 - 9x = 3(1 - 3x) - 8$ $-5 - 9x = 3 - 9x - 8$ $-5 - 9x = -9x - 5$ $+9x \quad +9x$ $-5 = -5$ ∞ ALL REAL #'S
There is **no possible number** that could work as a solution to the equation!	**Every number** could work as a solution!

MORE EXAMPLES!

1

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

$6x + 6 - 3x = 6 + 3x$

$3x + 6 = 6 + 3x$

$-3x \quad -3x$

$6 = 6$

∞ ALL REAL #'S

2

$6(2x - 6) = -7(-2x + 4)$

$12x - 36 = 14x - 28$

$-14x \quad -14x$

$-2x - 36 = -28$

$+36 \quad +36$

$-2x = 8$

$\frac{-2x}{-2} = \frac{8}{-2}$

$\boxed{x = -4}$

3

$8(5x - 3) = 6(-3x - 4)$

$40x - 24 = -18x - 24$

$+18x \quad +18x$

$58x - 24 = -24$

$+24 \quad +24$

$58x = 0$

$\frac{58x}{58} = \frac{0}{58}$

$\boxed{x = 0}$

4

$3x - 13 = 7(x + 2) - 4(x - 7)$

$3x - 13 = 7x + 14 - 4x + 28$

$3x - 13 = 3x + 42$

$-3x \quad -3x$

$-13 = 42$

$\boxed{\varnothing}$

Exit Ticket 9/27/18

1. Evaluate: $\sqrt[3]{1331}$

2. Simplify: $-4(3x - 5) - (10x + 1)$

3. <u>Translate into an algebraic expression:</u>
Fifteen less than a number is negative twelve