Bellwork: Algebra 1

1. Write down your homework for the night.
2. Take out your homework from last night and be ready to check it.
3. You will need your compostition book today.
4. Answer the following question:

$$4(2x-10)=2(4x-13)-14$$

$8x-40=8x-26-14$

$8x-40=8x-40$ $\quad 8x=8x$

$-8x \qquad -8x$

$-40=-40$ Infinite Solutions

1. $4x + 1 = 2x - 5$

$-2x \quad -2x$

$2x + 1 = -5$

$-1 \quad -1$

$\frac{2x}{2} = \frac{-6}{2}$

$\boxed{x = -3}$

2. $y - 3 = -3y - 43$

$+3y \quad +3y$

$4y - 3 = -43$

$+3 \quad +3$

$\frac{4y}{4} = \frac{-40}{4}$

$\boxed{y = -10}$

3. $7 - 14m = 2m - 5$

$+14m \quad +14m$

$7 = 16m - 5$

$+5 \quad +5$

$\frac{12}{16} = \frac{16m}{16}$

$\boxed{\frac{3}{4} = m}$

4. $-10b + 5 = 7b + 5$

$+10b \quad +10b$

$5 = 17b + 5$

$-5 \quad -5$

$\frac{0}{17} = \frac{17b}{17}$

$\boxed{0 = b}$

5. $r + 15 = 4r - 6$

$-r \quad -r$

$15 = 3r - 6$

$+6 \quad +6$

$\frac{21}{3} = \frac{3r}{3}$

$\boxed{7 = r}$

6. $10 - 2v = -5v - 50$

$+5v \quad +5v$

$10 + 3v = -50$

$-10 \quad -10$

$\frac{3v}{3} = \frac{-60}{3}$

$\boxed{v = -20}$

7. $3(5y + 1) = 18y$

$15y + 3 = 18y$

$-15y \quad -15y$

$\frac{3}{3} = \frac{3y}{3}$

$\boxed{1 = y}$

8. $4 - 3x = 8 - 4x$

$+4x \quad +4x$

$4 + x = 8$

$-4 \quad -4$

$\boxed{x = 4}$

9. $8(2w - 2) = 7(3w + 2)$

$16w - 16 = 21w + 14$

$-16w \quad -16w$

$-16 = 5w + 14$

$-14 \quad -14$

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

$\boxed{-6 = w}$

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

$15x + 6 = 6x - 12$

$-6x \quad -6x$

$9x + 6 = -12$

$-6 \quad -6$

$\frac{9x}{9} = \frac{-18}{9}$

$\boxed{x = -2}$

11. $6(m - 1) = 3(3m + 5)$

$6m - 6 = 9m + 15$

$-6m \quad -6m$

$-6 = 3m + 15$

$-15 \quad -15$

$\frac{-21}{3} = \frac{3m}{3}$

$\boxed{-7 = m}$

12. $7(p + 3) + 9 = 5(p - 2) - 3p$

$7p + 21 + 9 = 5p - 10 - 3p$

$7p + 30 = 2p - 10$

$-2p \quad -2p$

$5p + 30 = -10$

$-30 \quad -30$

$\frac{5p}{5} = \frac{-40}{5}$

$\boxed{p = -8}$

$-4=-2$
$+2 \quad +2$
$-2=\emptyset$

NO SOLUTION & INFINITE SOLUTION

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

Solutions

∞

1

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

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

$3x + 6 = 6 + 3x$

$-3x \qquad -3x$

$6 = 6 \qquad \infty$

2

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

$12x - 36 = 14x - 28$

$-12x \qquad -12x$

$-36 = 2x - 28$

$+28 \qquad +28$

$-8 = 2x \quad x = -4$

3

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

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

$x = \emptyset$

4

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

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

$3x - 13 = 3x + 42$

$-3x \quad -3x$

$\emptyset$

$-13 = 42$

1. $2x + 2x + 2 = 4x + 2$

2. $3(x - 1) = 2x + 9$

3. $2x + 8 = 2(x + 4)$