Warm-up 9/14

Solve the following.
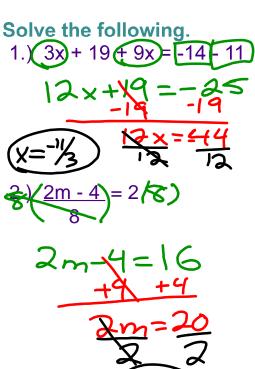
1.) 3x + 19 + 9x = -14 - 11

3.) 5(m + 7) + 9 = 8

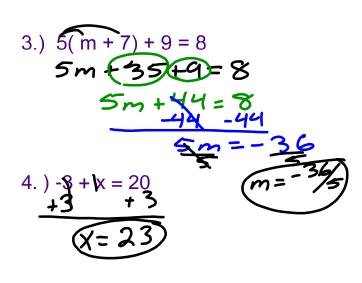2.) $\dfrac{2m - 4}{8}$ = 2

4.) -3 + x = 20

Warm-up 9/14

Solve the following.

1.) $3x + 19 + 9x = -14 - 11$

$$12x + 19 = -25$$
$$-19 \quad\quad -19$$
$$12x = -44$$
$$\frac{12x}{12} \quad \frac{-44}{12}$$
$$\boxed{x = {}^{-11}\!/_3}$$

2.) $\frac{8}{8}(2m - 4) = 2(8)$

$$2m - 4 = 16$$
$$+4 \quad +4$$
$$\frac{2m}{2} = \frac{20}{2}$$
$$\boxed{m = 10}$$

3.) $5(m + 7) + 9 = 8$

$$5m + 35 + 9 = 8$$
$$5m + 44 = 8$$
$$-44 \quad -44$$
$$\frac{5m}{5} = \frac{-36}{5}$$
$$\boxed{m = {}^{-36}\!/_5}$$

4.) $-3 + x = 20$

$$+3 \quad\quad +3$$
$$\boxed{x = 23}$$

Variables on both sides of the Equation

$7m = 4m + 15$

$-4m \quad -4m$

$\dfrac{3m}{3} = \dfrac{15}{3}$

$m = 5$

1. Get all letters on one side of the equation.

2. Isolate variable by performing reverse order of operations

Try These!

1.) $6x + 2 = 4x - 15$

$\underline{-4x \qquad -4x}$

$2x + 2 = -15$

$\underline{\quad -2 \quad -2}$

$\dfrac{2x}{2} = \dfrac{-17}{2}$

$x = \dfrac{-17}{2}$

2.) $-4\left(\dfrac{(-5x - 7)}{4}\right) = -13 \,(-4)$

$-5x - 7 = 52$

$\underline{\quad +7 \quad +7}$

$\dfrac{-5x}{-5} = \dfrac{59}{-5}$

$x = \dfrac{-59}{5}$

3.) $-3x + 8 - 9x = 2x - 18$

$-12x + 8 = 2x - 18$

$\underline{+12x \qquad +12x}$

$8 = 14x - 18$

$\underline{+18 \qquad +18}$

$\dfrac{26}{14} = \dfrac{14x}{14}$

$x = \dfrac{13}{7}$

4.) $-9x - 29 = 7x + 8$

$\underline{-7x \qquad -7x}$

$-16x - 29 = 8$

$\underline{\quad +29 \quad +29}$

$\dfrac{-16x}{-16} = \dfrac{37}{-16}$

$x = \dfrac{-37}{16}$

More Examples

1. $2(y + 6) = 3y$

$2y + 12 = 3y$

$-2y \qquad -2y$

$12 = y$

$y = 12$

2. $3c - 5 = 2c + 5$

$-2c \qquad -2c$

$1c - 5 = 5$

$+5 \quad +5$

$1c = 10$

3. $5 - x - 2 = 3 + 4x + 5$

$3 - x = 8 + 4x$

$-4x \qquad -4x$

$3 - 5x = 8$

$-3 \qquad -3$

$-5x = 5$

$\dfrac{-5x}{-5} = \dfrac{5}{-5}$

4. $2(x + 4) - 5 = 2x + 3$

$x = -1$

Homework

pg. 43 #s 3-21 (odd)