Course: MFM2P Gr. 10 Applied **Lesson: 4 = 2**

Unit: Linear Equations **Topic: Solving Two Step Equations**

- ***homework check:*** **Lesson 4 - 2**

- ***note:*** **Solving Two Step Equations**

To solve equations we use the opposite operation to isolate the unknown variable. For example, solve each of the following by showing your steps.

a)

$$3x - 5 = 7$$
$$3x = 7 - 5$$
$$3x = 12$$
$$\frac{3x}{3} = \frac{12}{3}$$
$$x = 4$$

b)

$$5 - \frac{a}{4} = -15$$
$$-\frac{a}{4} = -15 - 5$$
$$-\frac{a}{4} = -20$$
$$\left(\frac{-a}{4}\right)(-4) = (-20)(-4)$$
$$a = 80$$

Which of the given equations have a solution of a = 2?

$2a + 3 = 7$

$LS = 2a + 3 \qquad RS = 7$

$= 2(2) + 3$

$= 7$

$LS = RS, x = 2$ is a solution

$4a + 6 = 10$

$LS = 4a + 6 \qquad RS = 10$

$= 4(2) + 6$

$= 8 + 6$

$= 14$

$LS \neq RS, x = 2$ is not a solution

- ***homework assignment:*** **<u>Lesson 4 - 2</u>**

MFM 2P Mrs. Roen Name: _____

Lesson 4 – 2: Solving Two-Step Equations

1. Solve each of the following equations.

a) $3x = 24$ **b)** $11 = x + 3$ **c)** $x + 5 = -3$ **d)** $\frac{x}{-3} = 2$

2. Solve each of the following.

a) $3 = 3x - 6$ **b)** $2x - 6 = -8$ **c)** $2x - 3 = 11$ **d)** $\frac{3x}{2} = -6$

e) $\frac{x-2}{-3} = -2$ **f)** $\frac{2x-1}{3} = 5$ **g)** $\frac{x}{6} + 4 = -7$ **h)** $\frac{x}{3} - 1 = -2$

3. Solve each of the following.

a) $3x = 2x - 3$ **b)** $4x = 2x + 6$ **c)** $3x - 2 = 4x$ **d)** $5x - 3x + 2 = -6$

e) $-3x = 4x + 21$ **f)** $-x + 3 = 2x$ **g)** $-15 + 2x = 7x$ **h)** $4 - 3x = 11 + 2x$

4. A nursing station uses the equation $BSA = 1321 + 0.3433m$ where *m* is the mass of the child getting the medicine and *BSA* represents the child's body surface area.

a) find the BSA for a child weighing 12 kg.

b) In order to get the medicine, the child's BSA must be at least 1333 cm^2. What is the minimum mass of the child?

5. A banquet hall charges according to the formula $C = 25n + 250$, where *C* is the total cost and *n* is the number of guests.

a) What will the cost for the hall be if 300 guests are invited?

c) If the total cost is $3375, how many guests attended the event?

6. The perimeter of a rectangle can be found using the formula $P = 2L + 2W$. If Mary has 180 m of fencing and the width of the rectangle is 32 m, what is the length of the rectangle?