# Station A

<Ignore #1 & #2 in the answers>

3. Simplify each expression by collecting like terms.

a) $5x+(-3)+(-3x)-(-4)$

b) $5x^2+1-3x+4x^2-7x-4$

# Station B

1. Simplify

a) $\left(4m^2-7m+3\right)+\left(2m^2-3m-1\right)$

b) $\left(3x^2-2x+7\right)-\left(5x^2-3x-4\right)$

2. Simplify FIRST, then evaluate for k=-3.

$$\left(k+3\right)-\left(2k^2-3k+4\right)-\left(3k^2-1\right)+\left(5k-3\right)$$

3. The length of a rectangle is 3 less than twice the width. Determine a simplified expression for the perimeter of the rectangle.

# Station C

1. Simplify.

a) $\left(x^6\right)\left(x^3\right)$ b) $\frac{y^{10}}{y^{-4}}$ c) $\left(x^5\right)^2$ d) $\frac{\left(x^{-5}\right)\left(x^7\right)}{x^6}$

2. Simplify.

a) $\left(5x^3y^{-2}\right)\left(-2x^5y\right)$ b) $\frac{-2x^5y}{8xy^{-3}}$ c) $\left(-4x^5y^{-3}\right)^2$

3. Simplify.

a) $\left(2x^3y^{-1}\right)\left(-xy^5\right)^2$

b) $\frac{\left(6a^3b^2\right)^2}{\left(-2a^2b\right)^3}$ c) $\frac{\left(-3m^4n^5\right)^3\left(2mn^3\right)^2}{\left(-2m^{-1}n^2\right)^3}$

# Station D

1. Simplify.

a) $5(3x-4)$

b) $-2x(7x+1)$

c) $3a^2b(5ab-2ab^3)$

d) $2x(3y-4xy^2)-3(3xy-7x^2y^2)$

2. Solve.

a) $3x-2=10$

b) $\frac{x}{5}=-2$

c) $5-3k=-4$

# Station E

1. Solve.

a) $3x-4+7x-1=3-4x$

b) $3(2x-5)=4x+2(x-6)$

c) $3(w-4)-2(5-2w)=-4(1-w)-(3w+5)$

d) $\frac{x}{3}-5=\frac{2x}{5}+\frac{2}{3}$

e) $\frac{3x}{2}-\frac{2x-1}{6}=2-\frac{3}{4}x$

2. Show a FORMAL CHECK to determine whether or not x=4 is a solution to the equation below. (**no marks for solving….just the check. Don't solve…do a check‼‼)

$$7-3(2x-1)=4(3-2x)+6$$

# Station F

Create and solve using an algebraic model.

**(let statements, equation, solution, concluding statement)**

1. One number is 5 less than twice the other number. The sum of the numbers is 22. Find the numbers.

2. The length of a rectangle is 3 more than the width. The perimeter is 34cm. Find the dimensions of the rectangle.

3. Liron has 72 coins made of up quarters (25 cents each) and nickels (5 cents each). The total value of the coins is $14.20. How many of each type of coin does Liron have?

# Station G

1. Solve.

a) $2:7=10:x$

b) $b:7=17:40$

c) $2:4:x=9:y:20$

2. Solve each of the following by creating an algebraic model and solving.
**(let statements, equation, solve, concluding statement)**

a) The ratio of yellow to blue for a particular shade of green paint is 2:5. How much blue and how much yellow do you need to make 250 mL of the green paint?

b) Jesse used 42L of gas to drive 750 km. How far can he drive with 55L of gas?