

PROBLEM SET B:

Name _____ Period _____

Problem 3.1 Homework Worksheet

1. Ms Chang's class decides to use the *Cool Tee's* company to make t-shirts. The following equation represents the relationship between cost C and number of T-shirts n .

$$C = 2n + 20$$

a. The class wants to buy 25 T-shirts from *Cool Tee's*. Use the equation to figure out the cost.

What is the value of n ? _____

Show how you used the equation to figure out the cost:

What is the value of C ? _____

b. Suppose the class has \$80 to spend on T-Shirts. Describe a way that you could find the number of T-Shirts that the class can buy:

How many T-shirts can the class buy? _____

c. Sophia writes the following equation into her notebook:

$$C = 2(15) + 20$$

What variable is the number 15 replacing? _____

What does the number 15 represent in the problem?

What information is Sophia trying to figure out?

d. Elisa uses the coordinates (30, 80) to describe information about the cost of the T-shirts. Write a single sentence that describes what the coordinate means in this problem.

The following equations represent some walkathon pledge plans. In each equation, y is the money donated in dollars, and x is the number of kilometers walked.

2. Equation: $14 = 2x$

- a. What variable is being replaced by the number 14? _____
- b. What does the 2 represent?
- c. What information is unknown?
- d. What is the value of x ? _____ Check your answer below by substituting it for x in the equation.

3. Equation: $y = 3.5(10) + 20$

- a. What variable is replaced by the number 10? _____
- b. What information is unknown?
- c. What is the value of y ? _____

4. All the questions in the rest of this assignment are based on this equation: $y = 5x - 15$
For part a-d, find y . Show your work.

- a. If x is 20, what is y ? _____
- b. If x is -3 , what is y ? _____
- c. If x is -10 , what is y ? _____
- d. If x is 0, what is y ? _____
- e. If y is 50, what is x ? _____

For part f – h, find x . Show your work, then check by substituting the value for x you found into the equation. You can use another sheet if you want.

- f. If y is 0, what is x ? _____ Check:
- g. If $y = -10$, what is x ? _____ Check
- h. If $y = -30$, what is x ? _____ Check