

- 1) Write an equation that shows *three less than twice the sum of a number x and 7 is four.*

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

- 2) Given the formula for converting a temperature from degrees Celsius C to degree Fahrenheit F , solve it for F .

$$\frac{9}{5} \cdot C = \frac{5}{9}(F-32) \cdot \frac{9}{5}$$

$$\frac{9}{5}C = \frac{F-32}{+32}$$

$$F = \frac{9}{5}C + 32$$

- 3) Solve the equation $5(x+3) + 10x + 25(2x) = 340$.

$$5x+15+10x+50x=340$$

$$65x+15=340$$

$$65x=325$$

$$x=5$$

- 4) Deluxe Cleaners charges \$20 to dry clean a tuxedo. They pay an employee \$8 per hours to clean tuxedos and use \$4 worth of dry cleaning fluid on each tuxedo. The profit for this service can be determined using $p = x[20 - (4 + 8h)]$

where p is profit in dollars, h is the number of hours employee is paid, and x is the number of tuxedos cleaned. Write a simplified equation for the profit earned from cleaning 15 tuxedos.

$$p = 15(20 - (4 + 8h))$$

$$p = 15(20 - 4 - 8h)$$

$$p = 15(16 - 8h)$$

$$p = 240 - 120h$$

- 5) The expression $2T + 3F + 4M + 10E$ gives the number of points a student earns on a test when the student correctly answers T true/false questions, F fill in the blank questions, M multiple choice questions, and E extended response questions. Which statement below is NOT true?

- a) The coefficient 2 indicates that each correct true/false question earns 2 points.
- b) The coefficient 3 represents the points earned for each fill in the blank question.
- c) The term $10E$ represents the total number of points earned from 10 extended response questions.
- d) The term $4M$ represents the total number of points earned from M multiple choice questions at 4 points per question.

- 6) Create a table of 5 ordered pairs that:

a. represents a function

b. does NOT represent a function

c. Give the domain and range for the relation given in part a.

- 7) Sketch a graph that:

a. represents a function

b. does NOT represent a function

8) Draw a mapping diagram, with 4 ordered pairs that:

a. represents a function

b. does NOT represent a function

9) The cost C of a lawn maintenance service is \$45 per month plus an additional \$8 per visit v to your house.

a. Write an equation to represent this situation.

$$C = 45 + 8v$$

b. Find the cost for a month where the lawn service came to your house 5 times.

$$\$85$$

10) Given the function $f(x) = -2x^2 - 7x + 10$, find:

a. $f(3)$

$$-29$$

b. $f(-12)$

$$194$$

For 11 – 16, solve each equation.

11) $2m + 12 = 3m - 31$

$$-m = -43$$

$$m = 43$$

12) $3(5j + 2) = 2(3j - 6)$

$$15j + 6 = 6j - 12$$

$$9j = -18$$

$$j = -2$$

13) $\frac{2}{3}v - 6 = 6 - \frac{2}{3}v$

$$\frac{4}{3}v = 12$$

$$v = 9$$

14) $\frac{w}{7} + 3 = -1$

$$\frac{w}{7} = -4$$

$$w = -28$$

15) $\frac{c-5}{4} = 3$

$$c-5 = 12$$

$$c = 17$$

16) $4 = 3a - 14$

$$18 = 3a$$

$$6 = a$$