Name: _____

Date Started: _____ Date Completed: _____ Score: _____

Learning Activity Sheet
Problems Involving Linear Functions

A. **Circle the letter of the correct answer.**

For numbers 1 and 2, refer to the problem below.

If 120 feet is to be used to fence a rectangular lot, then the area of the fenced lot is represented by $A = x(60 - x)$ where x is the width of the rectangle.

1. What is the area of the fenced lot if the width is 5 feet?
   a. The area is 225 sq. ft.
   c. The area is 300 sq. ft.
   b. The area is 275 sq. ft.
   d. The area is 325 sq. ft.

2. What is the domain of the given problem?
   a. The domain is $x < 60$
   c. The domain is $x > 60$
   b. The domain is $x > 0$
   d. The domain is $0 < x < 60$

For numbers 3 and 4, refer to the problem below.

A DVD manufacturer has a total cost function of $C(x) = 75x + 4,500$ and total revenue function $R(x) = 125x$.

3. What is the profit for the 100 items?
   a. ₱500   b. ₱600   c. ₱700   d. ₱800

4. How many items must be sold for the manufacturer to break even (no loss, no gain)?
   a. 70 items   b. 80 items   c. 90 items   d. 100 items

B. **Test your skills in solving word problems involving functions.**

1. A gardener wishes to fence the perimeter of a rectangular garden with an area of 120 square feet. If the garden is x feet long, express the length L of the fence needed as a function of x.

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2. The total cost C(*x*) of producing a product is given by C(*x*) = 0.1x2 + 500*x* + 2,000 where *x* represents the number of units produced. Find the value and meaning of C(50).

3. The function C described by C(F) = $\frac{5}{9}$ (F – 32) gives the Celsius temperature corresponding to the Fahrenheit temperature F. Find the Celsius temperature equivalent to (a) 14°F and (b) 68°F.

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