Name:_____
Date Started: _____Date Completed: _____Score:_____

Learning Activity Sheet
Solving Problems Involving Polynomials and Polynomial Equations

Solve the following problems.

1. The volume of a rectangular solid is 750 cubic units. The width is 7 units more than the height, and the length is 1 unit more than eight times the height. Find the dimensions of the solid.

2. A box with a square-shaped base has a volume of 810 cubic inches. If the height of the box is 1 inch more than the length of the base, what are the dimensions of the box?

3. The volume of an ice cream cone is 100.48 cubic units. If its height is 2 units more than the radius of the cone, what are the dimensions of the cone? (Use p = 3.14.)

4. The number of bacteria in a laboratory set-up is given by P(t) = -t4 + 12t3 - 58t2 + 132t after t hours of applying an antibacterial solution. After how many hours will it take for all the bacteria to be eliminated?

5. The marketing manager of a new soap has figured that her monthly profit P (in thousands of pesos) is determined by the monthly expense x (in tens of thousands of pesos) according to the function: P(x) = x3 - 15x2 + 90x for

$0 \leq x \leq 5$. For what value of x does the manager get ₱184,000 in profits?