MAT 117

Appendix C

Chapter 4 and 5

Introductory and Intermediate Algebra, Third Edition, by Marvin L.Bittinger and Judith A.Beecher.Published by Addison Wesley. Copyright ©2007 by Pearson Education, Inc.

Answer the following questions. Use Equation Editor to write mathematical expressions and equations. First, save this file to your hard drive by selecting **Save As** from the **File** menu. Click the white space below each question to maintain proper formatting. Show your work for full credit.

1. *(4 POINTS) Earth vs. Sun.* The mass of Earth is about 6 x 1021 metric tons. The mass of the sun is about 1.998 x 1027 metric tons. About how many times the mass of Earth is the mass of the sun? Express the answer in scientific notation.
2. *(4 POINTS)**Perimeter of a Baseball Diamond.*The perimeter *P* of a square of side *x* is given by the polynomial equation: P=4*x*

A baseball diamond is a square 90 ft on a side. Find the perimeter of a baseball diamond.

1. *(4 POINTS)**Total Revenue.* Hadley Electronics is marketing a new kind of plasma TV. The firm determines that when it sells *x* TVs, its total revenue *R* (the total amount of money taken in) will be *R* = 280*x*  - 0.4*x*2 dollars. What is the total revenue from the sale of 75 TVs?
2. *(4 POINTS) Lung Capacity.* The polynomial equation *C* = 0.041*h*  - 0.018*A* - 2.69 can be used to estimate the lung capacity *C*, in liters, of a female of height *h*, in centimeters, and age *A*, in years. Find the lung capacity of a 20-year-old woman who is 165 cm tall.
3. *( 4 POINTS) Handshakes.* A researcher wants to investigate the potential spread of germs by contact. She knows that the number of possible handshakes within a group of *x* people, assuming each person shakes every other person’s hand only once, is given by the following formula.

Use this formula for the following exercises. *N* = ½(*x*2 – *x*).

1. There are 100 people at a party. How many handshakes are possible?

**b.** Everyone at a meeting shook hands with each other. There were 300 handshakes in all. How many people were at the meeting?