

Name: \_\_\_\_\_

Score: \_\_\_\_\_

1. If \$1000 is invested at 3% interest, find the value of the investment at the end of 5 years if the interest is compounded (i) monthly, (ii) continuously. (2 points)

2. When a cold drink is taken from a refrigerator, its temperature is  $5^{\circ}\text{C}$ . After 20 minutes in a  $25^{\circ}\text{C}$  room its temperature has increased to  $10^{\circ}\text{C}$ . What is the temperature of the drink after an hour? (2 points)

3. Two people start from the same point. One walks east at 3 mi/h and the other walks north at 2 mi/h. How fast is the distance between the people changing after 15 minutes? (3 points)

4. A boat is pulled into a dock by a rope attached to the bow of the boat and passing through a pulley on the dock that is 1 m higher than the bow of the boat. If the rope is pulled in at a rate of 1 m/s, how fast is the boat approaching the dock when it is 6 m from the dock? (3 points)