

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

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

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

2. A roast turkey is taken from an oven when its temperature has reached  $190^{\circ}\text{F}$  and is placed on a table in a room where the temperature is  $70^{\circ}\text{F}$ . If the temperature of the turkey is  $110^{\circ}\text{F}$  after half an hour, what is the temperature after 45 minutes? (2 points)

3. Two cars start moving from the same point. One travels south at 60 mi/h and the other travels west at 25 mi/h. At what rate is the distance between the cars increasing two hours later? (3 points)

4. A plane flying with a constant speed of 300 km/h passes over a ground radar station at an altitude of 3 km and climbs at an angle of  $30^\circ$ . At what rate is the distance from the plane to the radar station increasing a minute later? (3 points)