

Sections 11.1
Geometric Series

1. For each find a and r then find the sum of each series if it exists.
 - a. Find the sum of the series $200 + 100 + 50 + 25 + 12.5 + \dots$.

 - b. Find the sum of the series $1 + \frac{1}{3} + \frac{1}{3^2} + \dots + \frac{1}{3^{17}}$.

2. A bank account is earning interest at 6% per year compounded continuously.
 - a. By what percentage has the bank balance in the account increase over one year?

 - b. How long does it take the balance to double?

 - c. For an interest rate r , find a formula giving the doubling time in terms of the interest rate.

3. Each year from 1990 to 2000, the Townsends invested \$10000 into an account paying 8.12% interest per year, compounded annually. How much was in the account in 2001?

4. Suppose the average wage earner saves 10% of her take-home pay and spends the other 90%. Estimate the impact that a proposed \$20 billion tax cut will have on the economy over the long run in terms of the additional spending generated.