

## Quiz

1. An email starts with one person who sends it to 8 other people. The next day all 8 of those people forward the email to 8 people who haven't received it before. If everyone who receives the email forwards it to 8 different people the next day, how many days will take for the total number of people who have received the email since the first day to exceed 1 million? Assume the first day is the day the initial person first sent the email out.

- (a) 5  
(b) 6  
(c) 7
- (d) 8  
(e) 9

2. An investment of \$2000 earns 4% interest annually for 4 years. How much money is in the investment at the end of 4 years?
3. In 5 years, \$3,000 grows to \$3,940. What is the annual interest rate?
4. Write the following series in sigma notation:  $4 + 20 + 100 + 500 + \cdots + 39,0625,500 + 195,312,500$ .

- (a)  $\sum_{i=1}^{10} 4 + 20i$   
(b)  $\sum_{i=1}^{11} 4 \cdot 5^{i-1}$   
(c)  $\sum_{i=1}^{12} 4 \cdot 5^{i-1}$
- (d)  $\sum_{i=1}^{11} 5 \cdot 4^{i-1}$   
(e)  $\sum_{i=1}^{12} 5 \cdot 4^{i-1}$

5. \$1,000 is invested in an account that earns 4% interest compounded quarterly. After 6 years, the interest changes to 3.6% compounded monthly. How much is in the account after 15 years?

## Homework

Mathematics Resource Guide, page 75-77, problems 1, 4, 5, 11, 14, 15.