Name: _____   Date: _____

7.1 Simple Interest

1. Joshua won $250 000 in a draw to support the local hospital. He does not need the money for 3 months, so he decides to invest it in an account that pays 8% simple interest annually.
   a) Calculate the interest paid on Joshua's investment at the end of the 3-month period.
   b) What is the total value of the investment?

2. Kathy puts $3000 into an account that pays 5% simple interest annually.
   a) Create a linear model to relate the amount of the investment, A, to time, t, in years.
   b) Graph the amount of the investment versus time.
   c) How long will it take for Kathy's investment to double in value?
   d) What interest rate is required for the investment to double in value in 10 years?

3. The graph shows the amount of an investment earning simple interest.
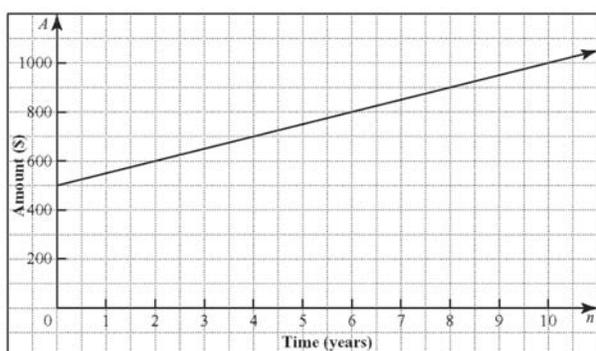
   a) What is the principal?
   b) What is the annual interest rate?
   c) Write an equation to relate the amount of the investment to time.

4. a) How long will it take, to the nearest month, for an investment of $800 to grow to $1000 at 6% per year, simple interest?
   b) How much faster would the investment grow to $1000 if the simple interest rate were 8% per year?

5. Determine the amount of interest paid on a $35 000 investment that pays 10% per year, simple interest for
   a) 125 days
   b) 8 months
   c) 4 years

6. Ian deposits $1200 into a savings account that earns 4% per year, simple interest.
   a) Write an equation to relate the amount of the investment, A, to time, t, in years.
   b) Graph the function.
   c) How long will it take, to the nearest month, for the investment to grow to $1500?

7. Andrea borrowed $1200 from her brother to buy a new computer. Six months later, she paid her brother back $1300. What annual rate of simple interest did Andrea give her brother?

8. Jefferson borrowed $4000 for his college tuition at an annual simple interest rate of 5.5%. When he repaid the loan, he paid a total of $4660. How long did Jefferson hold the loan?

9. Banks will often loan businesses large sums of money for short periods of time. If a company needs a $2 000 000 loan for 3 days, how much interest would it owe if interest is calculated at 12% per year, simple interest?