Checkpoint: ***Can you . . .***

* calculate the simple interest and principal for an investment or loan?
* calculate the interest rate and time for an investment or loan?
* calculate the simple interest and amount for an investment or loan?
* calculate the principal, given the amount of an investment earning simple interest?
* calculate the amount for interest compounded annually?
* calculate the amount and principal for any compounding period?
* calculate the interest for any compounding period?
* use the rule of 72 to estimate the time for an investment to double?

1. Mike invested $2000 that earned $45.21 in simple interest over 30 months.
   1. What is the value of Mikes investment after 30 months?
   2. What was the annual rate of interest?
2. Mariko invested $800 at 5% per annum and received $20 simple interest. How long was her money invested for?
3. A loan was repaid after 6 months. The simple interest paid on the loan was $19.50. The annual interest rate was 7.8%. What was the initial amount of the loan?
4. You are considering a short-term loan to purchase textbooks for university of $1500 at 8% p.a. Working through the summer, you will be able to pay the loan off in 9 months. What will you owe after 9 months and how much interest did you have to pay?
5. The amount to be repaid on a loan is $5500. The interest on the loan is $500 and the simple interest rate is 3.75% annually.
   1. How much money was borrowed?
   2. For what length of time was the money borrowed?
6. $8000 is invested in an RRSP for 7 years compounded quarterly at a rate of 9.2% per year. Determine the value of the investment at the end of the term.
7. Mr. Mathers wanted to invest some money so that his daughter will have $20000 for her college education in 10 years time. The bank offered him an annual rate of 6.8% compounded semi-annually. How much should his initial investment be?
8. Lennon borrowed $3400 for 3 years and paid interest compounded bi-weekly. No payments were required until the end of the 3 years. If at the end of the term he repaid $4670.39, determine the annual rate of interest (to the nearest tenth of a percent).
9. Two banks offer GICs:

* Bank A offers a return of 5.3%, compounded annually for 5 years.
* Bank B offers a return of 6% simple interest for 5 years.
  1. Which GIC earns more interest? b) How much more interest?