

Simple Interest

See page 6 – Investigate the Math.

Sera is 20 years old and needs money to pay for college. When she was born, her grandparents bought her a \$500 Canada Savings Bond (CSB) with a term of 10 years. They chose a CSB as an investment because they liked the security of loaning money to the government. The interest earned was determined using a fixed interest rate of 6% per year on the original investment and was paid at the end of each year until Sera's 10th birthday.

How can you determine the current value of Sera's CSB?

A. How much interest was earned on the principal by the end of the first year?

B. Determine the simple interest earned each year, the accumulated interest, and the value of the investment for the first 4 years, and complete the table.

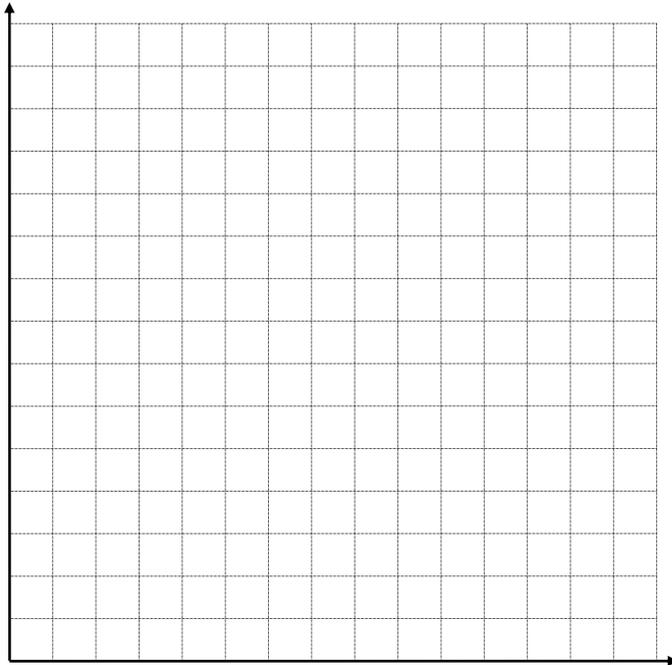
Year	Value of investment at start of year (\$)	Simple interest earned (\$)	Accumulated interest (\$)	Value of investment at end of year (\$)
1	500			
2				
3				
4				

C. Is the simple interest earned each year constant or variable? Explain.

D. Describe the relationship between the number of years, the interest earned each year, and the accumulated interest.

E. Use the relationship from part D to predict the value of the investment after 10 years.

F. Graph the growth of the investment until its maturity at 10 years using “Time (years)” as the domain and “Value of the investment (\$)” as the range. Is your prediction in part E supported by your graph?



G. Describe your graph. What does the shape of your graph tell you about the type of growth?

H. Describe how the value of the investment would change at maturity in each situation below, compare with the original.

- a) If the principal was \$1000, but the interest was still 6% for a term of 10 years.
- b) If the principal was \$500, but the interest was 5% for a term of 10 years.
- c) If the principal was \$500 and the interest was 6%, but for two terms of 10 years (20 years total).