

Prerequisite Skills

Proportional Reasoning

1. Kuan Yin pays \$18.25/h to use a personal trainer at her gym. Calculate the training cost for
 - a) 3 h
 - b) 7 h
 - c) 12 h
2. Refer to question 1. Training fees are subject to 5% GST. Calculate the total amount Kuan Yin must pay if she worked with her trainer for 5 h last week.

Simple and Compound Interest

3. Max loaned \$1500 to his brother who will pay Max simple interest of 2.5% per year. Use the formula, $I = Prt$, to calculate the interest earned for each time period.
 - a) one year
 - b) three years
 - c) eight months
4. Calculate the future value for each part of question 3.
5. Isabelle has \$1500 in an account that pays 2.5% per year, compounded monthly.
 - a) Explain why the future value of Isabelle's account after one year will be greater than your answer to question 4, part a).
 - b) Use a TVM Solver to determine the future value after one year.
 - c) Determine the future value after three years. How does this amount compare to your answer to question 4, part b)?

Annuities

6. To save for college, Isaac invests \$150 at the end of each month at 5% per year, compounded monthly.
 - a) Calculate the future value of Isaac's investment after
 - i) one year
 - ii) three years
 - b) Explain why the answer to part ii) is not three times the answer to part i).
7. Tanesha bought a car for \$23 000. She got financing at 1.8% per year, compounded monthly. Calculate the monthly payment on Tanesha's car loan for each term.
 - a) three years
 - b) four years
 - c) five years
8. Determine the total amount Tanesha would pay for her car for each part of question 7.

Time

9. Determine the total number of payments.
 - a) semi-monthly payments for one year
 - b) weekly payments for two years
 - c) bi-weekly payments for five years
 - d) quarterly payments for three years
10. Rashid's yearly salary, before payroll deductions, is \$42 000. How much does he earn in
 - a) two weeks?
 - b) one month?
 - c) four months?

