

21. A jewellery set costs 2316 Canadian dollars in Canada and 18 150 Hong Kong dollars in Hong Kong. Suppose 1 Canadian dollar exchanges for 1.36 Singapore dollars and 17.75 Singapore dollars exchange for 100 Hong Kong dollars.

- In which of the 2 countries is the jewellery set cheaper? Explain your answer clearly.
- Express the amount saved from buying the jewellery set at the cheaper price as a percentage of the cost of buying it at the higher price.

22. Use the property tax rates given below to answer this question.

Property tax rate for owner-occupied properties = 4%

Property tax rate for other properties = 10%

The monthly rent of an apartment for the first 4 months of a year was \$ x . The monthly rent was increased by 20% for the remaining months of the year. Suppose the property tax on the rent earned in that year was \$2040.

- Form an equation in x and solve it.
- There was no adjustment to the monthly rent in the following year.

Find the property tax on the rent charged in the following year.

Challenging Practice

23. (a) The cost price of a car is \$ x . A customer may pay \$ y in cash for the car. In this case, the profit made by the car dealer will be $13\frac{1}{3}\%$ of the mean of the cost price and the cash price.

- Show that $x : y = 7 : 8$.
- Hence, find the corresponding profit as a percentage of the cost price.

(b) The car may also be bought by paying a downpayment of \$ p and monthly instalments of \$ q over 60 months. Suppose that the cash price of the car is \$60 000 and the flat rate of interest is 4% p.a..

- Show that an equation in p and q is $p + 50q = 60\,000$.
- The total amount paid for downpayment and monthly instalments after 1 year is \$22 000. Show that another equation in p and q is $p + 12q = 22\,000$.
- Solve the simultaneous equations in (i) and (ii).
- Hence, find the total amount payable if the car is bought by hire-purchase.

24. Mr Wee repaid a loan of \$10 000 at 10% p.a. compounded annually in 3 annual instalments of \$ w , \$2 w and \$3 w respectively.

- Express in terms of w , the balance of Mr Wee's loan just after his
 - first repayment,
 - second repayment.
- Form an equation in w and solve it. Give your answer correct to 2 decimal places.
 - Hence, express the total interest paid as a percentage of the original loan.
- Mr Wee repaid his loan with progressively higher annual repayments. Give a possible reason for his action.