

MSC F3 Exercise on percentages

Exercise on Percentages

1. The number of cars in a city increases by 5% every year. It is known that the number of cars 3 years ago was 515000.
 - (a) Find the current number of cars.
 - (b) Find the number of cars 7 years ago.

(Give your answer correct to the nearest integer.)
2. The depreciation rate of a machine is $r\%$ per half year. It is known that the values of the machine at the end of 2015 and 2016 were \$400000 and \$324000 respectively.
 - (a) Find the value of r .
 - (b) (i) Find the value of the machine at the end of 2022.
 - (ii) Find the value of the machine at the end of 2013.

(Give your answers correct to 3 significant figures.)
3. A principal of $\$P$ is deposited in a bank at an interest rate of 4% p.a. for 1 year.
 - (a) Find the interest received if the interest is
 - (i) calculated in simple interest,
 - (ii) compounded half-yearly.Express your answers in terms of P .
 - (b) If the difference between the results in (a)(i) and (a)(ii) is \$394, find the value of P .
4. The ratio among the three major expenditures of Adam: rent, food and transportation was $10:9:4$ last month. In this month, the expenditures on rent and transportation increased by 8% and 2.5% respectively. If the total amount of the three major expenditures remained the same, find the percentage change in the expenditure on food.

5. Mr. Li has only the basic allowance of \$132000. According to the following progressive rates, his salaries tax should be calculated at the standard rate of 15%.
Find his minimum net total income.

Net chargeable income	Tax rate
(I) On the first \$50000	2%
(II) On the next \$50000	6%
(III) On the next \$50000	10%
(IV) On the next \$50000	14%
(V) Remainder	17%

