Every-day Mathematics

Monday, 10 January 2022 10:32 AM

1 **(a)** Stefan had an annual income of $21 500 in 2018.
His annual income increased to $22 790 in 2019.

Calculate the percentage increase.

..... % [2]

(b) Stefan invests $1260 in a bank.
The bank pays simple interest at a rate of 2.5% per year.

Calculate the amount Stefan has in the bank at the end of 3 years.

$ ..... [2]

(c) Stefan changes 4300 Indian Rupees (INR) into dollars ($).
The exchange rate is $1 = 67.8 INR.

Work out how much he receives.
Give your answer correct to the nearest dollar.

Q2

(a) Kamal earned a total of $32 500 in 2017.
He paid 9% of this amount into his pension.
He paid 22% tax on the remainder of his earnings.

Calculate the amount left after paying his pension and his tax.

Answer $ ..... [3]

(b) Kamal invested $1200 in a savings account paying 1.8% per year compound interest.
He left the money in the account for 5 years.

Calculate the amount of money in the account at the end of 5 years.
Give your answer correct to the nearest cent.

(c) Kamal also invested some money in a different savings account for 5 years.
This account paid 2.1% per year **simple** interest.
At the end of 5 years there was $828.75 in the account.

Calculate the amount of money he invested in this account.

Answer $ ..... [3]

(d) The exchange rate between dollars ($) and pounds (£) is $1 = £0.72$.
The exchange rate between dollars and euros (€) is $1 = €1.10$.

Kamal has $275.
He changes part of the $275 into pounds and receives £79.20.
He changes the remaining dollars into euros.

Calculate the amount of money he receives in euros.

Q3

(a) Each week Leah works 5 days and is paid a total of $682.
Each day she works from 08 45 until 12 15 and then from 13 15 until 17 30.

Calculate Leah's hourly rate of pay.

Answer $ ..... [2]

(b) Carlos buys a new bicycle.
After one year he sells it for $231.
He makes a loss of 16% on the price he paid.

Calculate the price Carlos paid for the bicycle.

Answer $ ..... [2]

(c) The exchange rate between dollars ($) and euros (€) is $1 = €0.44 .
Henry changes $850 to euros for his holiday.

He spends €260 when he is on holiday.
He changes the rest of the money back to dollars at the same exchange rate.

Calculate how much money in dollars he receives.
Give your answer correct to the nearest dollar.

(d) Anya has $3000 to invest in a savings account for 3 years.
She can choose from these two accounts.

Account A	
Year 1	1.1% interest
Year 2	1.2% interest added to end of Year 1 total
Year 3	1.4% interest added to end of Year 2 total

Account B
Fixed rate of compound interest 1.3% per year

She chooses the account that will give her more money at the end of the 3 years.

She chooses the account that will give her more money at the end of the 3 years.

Decide which account she chooses and find the amount she will have in her account at the end of 3 years.

Q4

(a) Sara buys a new car.
The cash price of the car is \$4500.
She can pay for the car using option A or option B.

Option A	**Option B**
Pay $\frac{1}{5}$ of the cash price then 12 monthly payments of \$340	Pay 12% of the cash price then 24 monthly payments of \$195

Which option is cheaper and by how much?

Answer Option ..... is cheaper by \$ ..... [4]

(b) Sara's car uses 5.2 litres of petrol for each 100 km she drives.
Petrol costs \$0.85 per litre.
Sara drives 240 km.

Calculate the cost of the petrol used for this journey.
Give your answer correct to the nearest cent.

(c) Sara pays a total of \$322 for her car insurance.
This total is made up of a basic charge plus 15% sales tax.

Calculate the amount of sales tax that Sara pays.

Answer \$ ..... [3]

Q5

The basic price of the 2016 model of a car is $21 000.
Sayeed and Rasheed each buy this model of car.

(a) (i) Sayeed pays a deposit of $756.

Calculate the deposit Sayeed pays as a percentage of the basic price.

Answer ..... % [1]

(ii) He then pays 24 monthly payments of $922.25 .

Calculate the **total** amount that Sayeed pays as a percentage of the basic price.

(b) Rasheed pays a deposit of $381 followed by 36 equal monthly payments.
The **total** amount that he pays is 127% of the basic price of $21 000.

Calculate Rasheed's monthly payment.

Answer $ ..... [3]

(c) $21 000 represented an increase of 5% on the basic price of the 2015 model.

Calculate the difference between the basic prices of the 2015 and 2016 models.

Q6

(a) Each year the Reds play the Blues in a baseball match.
In 2014, there were 40 500 tickets sold for the match.
In 2015, the number of tickets sold was 2.4% more than in 2014.

Calculate the number of tickets sold for the match in 2015.

Answer ..... [1]

(b) In 2015, the cost per ticket for the match was $68.25.
The cost per ticket for the match increased by 5% from 2014 to 2015.

Calculate the cost per ticket for the match in 2014.

Answer $ ..... [2]

(c) Calculate the percentage increase, from 2014 to 2015, in the total money taken for the match.

Q7

(a)

FLIGHTS TO SYDNEY

Cost per person: $1199

ACCOMMODATION

Cost per adult per night: $55

Cost per child per night: $40

INSURANCE COVER FOR UP TO 20 DAYS

Cost per adult: $40 and Cost per child: $30

OR

Cost for family (2 adults and up to 4 children): $155

A family of 2 adults and 3 children travel to Sydney for a holiday lasting 14 nights.

Calculate the **lowest total cost** of the flight, accommodation and insurance for their holiday.

Answer $ ..... [3]

(b)

BONUS CARS

$42 per day for any mileage

VALUE CARS

$20 per day **and** $0.50 per mile

The family hires a car for 14 days and estimates their total mileage will be 750 miles.

Which company charges less for this hire and by how much?