Worksheet 2015-8ƎH-00004(1)

(1) Calculate the following if SP → selling price and cost price → CP:

(a) CP if SP = R3 400 with a profit of 10%.

Let $CP = x$

$\therefore$ Profit = 10% of x

$= \frac{10}{100} \times x = 0{,}1x$

SP = CP + profit

$R3\,400 = x + 0{,}1x$

$3\,400 = 1{,}1x$

$\therefore x = \frac{3\,400}{1{,}1}$

$x = R3\,090{,}91$

$\therefore CP = R3\,090{,}91$

(b) Profit/loss percentage, to 2 dec. if CP = R280 and SP = R260.

Loss = CP − SP

= R280 − R260 = R20

$\therefore$ Loss % $= \frac{20}{280} \times \frac{100}{1}$

$= \frac{200}{28}$

$\approx 7{,}14\ \%$

(c) SP if the CP = R133,50 with a profit percentage of 4%.

Profit = 4% of CP

= 4% × R133,50

= R5,34

$\therefore$ SP = CP + profit

= R133,50 + R5,34

= R138,84

(d) Profit if the SP = R3x and the CP = Rx.

$$\text{Profit} = SP - CP$$
$$= 3x - 1x$$
$$= 2x$$

$$\text{Profit \%} = \frac{\text{Profit}}{CP} \times 100$$
$$= \frac{2x}{x} \times 100$$
$$= 200\%$$

(2) If the exchange rate is \$1 = R7,61, calculate:

(a) how many \$ will be equal to R367?

$$R367 = \$\frac{367}{7,61}$$
$$= \$\,48,23$$

(b) how many \$ will be exchanged for R28 000?

$$R28\,000 = \$\frac{28\,000}{7,61}$$
$$= \$\,3679,37$$

(c) how many rand are equal to \$1 400?

$$\$1 = R7,61$$
$$\therefore \$1400 = R7,61 \times 1400$$
$$= R10\,654$$

(3) Calculate the exchange rate if:

(a) R100 = \$15,19

$$R100 = \$15,19$$
$$\therefore \frac{R100}{100} = \$\frac{15,19}{100}$$
$$R1 = \$\,0,1519$$

or

$$\$15,19 = R100$$
$$\$\frac{15,19}{15,19} = R\frac{100}{15,19}$$
$$\$1 = R6,58$$

(b) R3 429 = £252,50

$R3429 = £252,50$ or $£252,50 = R3429$

$R\frac{3429}{3429} = £\frac{252,50}{3429}$ $£\frac{252,50}{252,50} = R\frac{3429}{252,50}$

$\therefore R1 = £0,0736$ $\therefore £1 = R13,58$

(c) €1 000 = R8 765,45

$€1000 = R8\,765,45$ or $R8\,765,45 = €1000$

$€\frac{1000}{1000} = R\frac{8765,45}{1000}$ $R\frac{8765,45}{8765,45} = €\frac{1000}{8765,45}$

$\therefore €1 = R8,76545$ $\therefore R1 = €0,1141$

(4) The interest earned on R4 500 invested for 6 years, is R2 214. Calculate the interest rate at simple interest.

$A = P + interest$

$= R4500 + R2214$

$\therefore A = R6\,714$

$P = R4\,500$

$i = ?$

$n = 6\ years$

$\therefore A = P(1 + i \times n)$

$6\,714 = 4500(1 + i \times 6)$

$\frac{6714}{4500} = 1 + 6i$

$1,492 = 1 + 6i$

$1,492 - 1 = 6i$ $\therefore$ interest rate $= 0,082 \times 100$

$0,082 = i$ $\therefore$ interest rate $= 8,2\%$ pa

(5) A fine has to be paid if a municipal bill is settled late. The fine that has to be paid is 0,06% per day for each day of late payment. If Colin's bill is settled 7 days late, calculate the fine he has to pay. His overdue bill is R787,10.

$A = ?$

$P = R787,10$

$i = 0,06\%\ pd = 0,0006$

$n = 7\ days$

$A = P(1 + i \times n)$

$= 787,10\ (1 + 0,0006 \times 7)$

$A = 790,41$

$\therefore$ Fine $= R790,41 - R787,10$

$= R3,31$

(6) Roshwin is on his way for an overseas business visit. He will visit America and there-after England. He budgets R30 000 for daily costs while oversees. He decides to exchange the whole R30 000 for American dollars. In America he spends $1 984. The exchange rate is as follows: $1 = R6,85 and £1 = R10,12.

(a) Calculate the amount of dollars that Roshwin will have left if he leaves America.
(b) Determine the exchange rate of $ to £.
(c) How many £ will Roshwin have to spend in England?

(a) America: $R30\ 000 = \$ \frac{30\ 000}{6,85}$

$= \$4\ 379,56$

$\therefore$ He has $\$4\ 379,56 - R1\ 984$

$= \$2\ 395,56$ left.

(b) $\$1 = R6,85$ with $£1 = R10,12$

$\therefore R10,12 = £1$

$R\frac{10,12}{10,12} = £\frac{1}{10,12}$

$R1 = £0,09881\ldots$

$\therefore \$1 = R6,85 \times 0,09881\ldots$

$\$1 = £0,677$

(c) $\$1 = £0,677$

$\therefore \$2\ 395,56 = £0,677 \times 2\ 395,56$

$= £1\ 621,79$