

Consumer Arithmetic

(i) $5\frac{1}{2} + 3\frac{2}{3} + 1\frac{4}{5}$ (lowest terms)

$$\begin{array}{ccc} \downarrow & & \downarrow \quad \downarrow \\ 10+1 = \frac{11}{2} & & 9+2 = \frac{11}{3} \quad 5+4 = \frac{9}{5} \end{array}$$

$$\frac{11 \times 3 + 11 \times 2}{2 \quad 3}$$

$$\frac{33+22}{6} = \frac{55}{6}$$

Then: $\frac{55 \times 5 + 9 \times 6}{6 \quad 5}$

$$\frac{275 + 54}{30} = \frac{329}{30} = 10.9$$

$$\frac{329}{30} = 10.966\dots \text{ (Decimal)}$$

(ii) $165 \times (0.38)^2$ exact value
 $= 23.826$

(i) $23.82\overset{+}{6} \approx 23.83$
 \rightarrow 5 or more

(ii) 23.826 (3 s.f.) $\approx 23.8\underset{<5}{26}$
 ≈ 23.8

(iii) 23.826 (nearest whole number) $23.\overset{+}{8}26$
 ≈ 24 $\rightarrow >5$
24

Question 2

$$P = 5,000$$

$$\text{New Principle} = \$5,810.00$$

$$R = ??$$

$$T = 3 \text{ years}$$

$$S.I. = ??$$

(i) Simple Interest Earned

$$\Rightarrow 5,810$$

$$- 5,000$$

$$\underline{\$ 810} \quad (\text{S.I.})$$

(ii) the annual interest rate paid by the credit union

$$\frac{P \times R \times T}{100} = S.I.$$

$$\frac{5,000 \times R \times 3}{100} = 810$$

(Substituting the vals
from before)

$$50 \times 3 \times R = 810$$

$$150 \times R = 810$$

$$R = 810 \div 150$$

$$= 5.4\%$$

(iii) to be doubled at the same interest rate means he invested 5,000 \rightarrow 10,000 would be the returned. (doubling the initial investment)

$$\frac{P \times R \times T}{100} = S.I.$$

$$\frac{5,000 \times 5.4 \times T}{100} = 5,000$$

$$50 \times 5.4 \times T = 5,000$$

$$270 \times T = 5,000$$

$$T = 5,000 \div 270$$

$$= 18.5 \text{ years}$$

Multiple Choice

1) What percentage of 30 is 6?

$$\frac{6}{30} \times 100 = 20\%$$

Ans: C

2) S.P. = C.P. + Profit

$$S.P. = \$95 + (32\% \text{ of C.P.})$$

$$\text{Profit (\$)} = \frac{32}{100} \times 95 = \$30.40$$

$$S.P. = 95 + 30.40 \\ = \$125.40$$

Ans: C

3) S.P. = \$60 Discount

$$S.P. = C.P. - \text{Discount (C\$)}$$

$$\$60 = C.P. - \$25$$

$$60 + 25 = C.P.$$

$$~~\$85~~ \$75 = C.P.$$

$$\text{Discount (\%)} = \frac{15}{75} \times 100 = 20\%$$

Ans D

4) Marked Price = \$40.00

Discount if purchased cash = 15%

$$\frac{15}{100} \times 40 = \$6.00$$

$$\text{Cash Price} = 40 - 6 = \$34.00$$

Ans [B]

5) 6 books \rightarrow should cost $(6 \times 25) =$
 \rightarrow \$150.00

6 books \rightarrow sold at a discount
\$120

$$150 - 120 = \$30$$

$$\text{Loss \%} = \frac{30}{150} \times 100$$

$$= \frac{300}{150} = 20\%$$

Ans [D]