Chapter11 Percentage Exercise 11.1

Exercise- 11.1 :-

Solution-01 :-

(i) We have,

$45\% = \frac{45}{100} = \frac{9}{20}$

(ii) $0.25\% = \frac{0.25}{100} = \frac{25}{10000} = \frac{1}{400}$

(iii) $150\% = \frac{150}{100} = \frac{3}{2}$

(iv) $6\frac{1}{4}\% = \frac{6.25}{100} = \frac{625}{10000} = \frac{1}{16}$

Solution-02:-

we have,

(i) $\frac{3}{4} = \left(\frac{3}{4} \times 100\right)\% = 75\%$

(ii) $\frac{53}{100} = \left(\frac{53}{100} \times 100\right)\% = 53\%$

(iii) $1\frac{3}{5} = (1.6 \times 100)\% = 160\%$

(iv) $\frac{7}{20} = \left(\frac{7}{20} \times 100\right)\% = 35\%$

Exercise 11.2

Exercise-11.2.

Solution-01:-

we have.

(i) $4:5 = \frac{4}{5} = \left(\frac{4}{5} \times 100\right)\% = 80\%$

(ii) $1:5 = \frac{1}{5} = \left(\frac{1}{5} \times 100\right) = 20\%$

(iii) $11:125 = \frac{11}{125} = \left(\frac{11}{125} \times 100\right) = \frac{44}{5}\%$

Solution-02:-

we have

(i) $2.5\% = \frac{2.5}{100} = \frac{1}{40}$

(ii) $0.4\% = \frac{0.4}{100} = \frac{1}{250}$

(iii) $13\frac{3}{4}\% = \frac{13.75}{100} = \frac{11}{80}$

Exercise 11.3

Exercise- 11.3.

Solution-01:-

we have,

(i) $12.5\% = \frac{12.5}{100} = 0.125$

(ii) $75\% = \frac{75}{100} = 0.75$

(iii) $128.8\% = \frac{128.8}{100} = 1.288$

(iv) $0.05\% = \frac{0.05}{100} = 0.0005$

Solution-02:-

we have,

(i) $0.004 = \frac{0.004}{100} = \frac{0.4}{100} = 0.4\%$

(ii) $0.24 = \frac{24}{100} = \left(\frac{24}{100} \times 100\right)\% = 24\%$

(iii) $0.002 = \frac{0.002}{100} = \frac{0.2}{100} = \left(\frac{0.2}{100} \times 100\right)\% = 2\%$

(iv) $0.275 = \frac{27.5}{100} = \left(\frac{27.5}{100} \times 100\right)\% = 27.5\%$

$0.275 = 27.5\%$

Solution-03:-

we have,

(i) $136\% = \frac{136}{100} = \frac{34}{25}$

(ii) $250\% = \frac{250}{100} = \frac{5}{2}$

(iii) $300\% = \frac{300}{100} = 3$

Exercise 11.4

Exercise- 11.4.

Solution-01:-

we know that P% of x is equal to $\frac{P}{100} \times x$. So, we have.

(i) 7% of RS 7150 = RS $\left(\frac{7}{100} \times 7150\right)$ = RS 505.50

(ii) 40% of 400 kg = Kg $\left(\frac{40}{100} \times 400\right)$ = 160kg

(iii) 20% of 15.125 litres = litres $\left(\frac{20}{100} \times 15.125\right)$

= 3.025 litres.

(iv) $3\frac{1}{3}\%$ of 90 km = km $\left(\frac{10}{300} \times 90\right)$ $\left[\because 3\frac{1}{3} = \frac{10}{3}\right]$

= 3 km.

(v) 2.5% of 600 metres = m $\left(\frac{2.5}{100} \times 600\right)$

= 15 metres.

Solution-02:-

Let the required number be x. Then,

$12\frac{1}{2}\%$ of $8x = 64$

$$x = \frac{64 \times 100}{12.5} = 64 \times 8 = 512$$

$\therefore x = 512.$

Solution-03:-

Let the required number be x. Then,

$6\frac{1}{4}\%$ of $x = 2$

$$\frac{6.25}{100} \times x = 2$$

$$x = \frac{2 \times 100}{6.25}$$

$$x = 2 \times 16$$

$$x = 32.$$

Solution-04:-

Let the required numbe x. Then,

50% of $x = ₹6$

$$\frac{50}{100} \times x = ₹6$$

$$x = \frac{300 \times 2}{50}$$

$$x = \frac{600}{50}$$

$$x = 12.$$

Exercise 11.5 Q1

Ex-11.5

Solution-01:-

(i) We have,

Required percent $= \frac{6}{24} \times 100$

$= \frac{100}{4}$

$= 25\%$

Hence, 24 is 6 $\rightarrow 25\%$

(ii) Required percent $= \frac{Rs\ 10}{Rs\ 125} \times 100\%$

$= \frac{1000}{125}$

$= 8\%$

Hence, Rs 10 is 8% of Rs 125.

(iii) Required percent $= \frac{160 \text{ metres}}{4 \text{ km}} \times 100$

We know that, 1 km = 1000 metres

$\therefore$ 4 km = 4000 metres

Req. Percent $= \frac{160}{4000} \times 100 = \frac{16000}{4000} = 4\%$

Hence, 160 metres of 4 km is 4%.

Solution-1:-

(iv) Rs 8 is 25 paise

We know that,

1 Rs = 100 paise

$\therefore$ 8 Rs = 8 × 100 paise

= 800 paise

$\therefore$ Required percent = $\frac{25 \text{ paise}}{800 \text{ paise}} \times 100$

$= \frac{25}{8}\%$

$= 3.125\%$

Hence, 25 paise is 3.125% of Rs. 8

(v) We have,

2 days is 8 hours.

We know that,

1 day = 24 hours

hour = $\frac{1}{24}$ day

8 hours = $\frac{8}{24}$ day $= \frac{1}{3}$ day

$\therefore$ Required percentage = $\frac{\frac{1}{3}}{2} \times 100\% = \frac{100}{6}\%$

Hence, 8 hours is $16\frac{2}{3}\%$ of 2 days.

vi) We have,

1 Litre is 175 ml

Wkt, Litre = 1000 ml

$\therefore$ Required percent = $\frac{175 \text{ ml}}{\text{litre}} \times 100$

$= \frac{175}{\frac{1000}{10}} \times 100$

$= 17.5\%$

Hence, 175 ml is 17.5% of 1 Litre.

Solution-02:-

We have,

$3\frac{3}{4}$ %

Required Percent = 37.5%.

Solution - 03:-

We have,

(i) Let x be required number. Then

$$4\% \text{ of } x = 8$$

$$\frac{4}{100} \times 8x = 8$$

$$x = \frac{800}{4}$$

$$x = 200$$

Req. number = 200

(ii) Let x be the required required number.

Then

$$60\% \text{ of } x = 6$$

$$\frac{60}{100} \times x = 6$$

$$x = \frac{600}{60}$$

$$x = 10$$

Hence, required number is 10.

(iii) Let x be the required number, Then

$$30\% \text{ of } x \text{ is } = 6$$

$$\frac{30}{100} \times x = 6$$

$$x = \frac{6 \times 100}{30}$$

$$x = 20$$

Hence, required number is 20

(iv) Let x be the required number, Then

$$25\% \text{ of } x = 12$$

$$\frac{25}{100} \times x = 12$$

$$x = \frac{12 \times 100}{25}$$

$$x = 12 \times 4$$

$$x = 48.$$

Hence, required number be 48

Solution-04:-

we have

(i) 25 marks out of 30 $= \frac{25}{30} \times 100\ \%$

$= \frac{250}{3}\ \%$

$= 83.33\ \%$

35 marks out of 40 $= \frac{35}{40} \times 100\ \%$

$= \frac{7}{8} \times 100\ \%$

$= 7 \times 12.5\ \%$

$= 87.5\ \%$

∴ 35 marks out of 40 (87.5 %) is more than 25 marks out of 30.

(ii) 100 runs scored off 110 balls $= \frac{100}{110} \times 100\ \%$

$= 90.91\ \%$

50 runs scored off 55 balls $= \frac{50}{55} \times 100\ \%$

$= 90.91\ \%$

Both are same (90.91 %)

Solution-05:-

we have,

20% of RS 200 $= \frac{20}{100} \times 200 =$ RS 40

∴ 20 % more than RS 200 = RS 200 + RS 40

= RS 240.

Solution-06:-

we have,

10 % of RS 150 $= \frac{10}{100} \times 150\ \%$

$= \frac{1500}{100}$

= RS 15

∴ 10 % less than RS 150 = RS (150 - 15)

= RS. 135.

Exercise-11.6

* Exercise-11.6 *

Solution-01:-

Total number of pages = 24

no of pages completed = 25% of 24 pages

$= \frac{25}{100} \times 24$

$= \frac{1}{4} \times 24$

= 6 pages

∴ No of pages Left = Total − pages completed

= (24−6) pages

= 18 pages.

Solution-02:-

Total no of eggs = 60 eggs.

no of eggs rotten = $16\frac{2}{3}$% of 60 eggs

= 16.66% of 60 eggs

$= \frac{16.66}{100} \times 60$

= 10 eggs

∴ no of eggs rotten = 10 eggs.

Solution-03:-

total number of marks = 80

Rohit obtained = 45

Required percent = $\frac{45}{80} \times 100$

$= \frac{9 \times 5}{80} \times 100$

$= 56\frac{1}{4}$%

= 56.25%

Solution-04:-

Salary = Rs 15900

Savings = 12% of salary

$= \frac{12}{100} \times 15900$

= Rs 1908

∴ expenditures = Salary − Savings

= 15,900 − Rs 1908

= Rs 13,992.

Solution-05:

Total amount = Rs 2,50,000.

∴ 30% of amount = $\frac{30}{100} \times 2,50,000$

$= 30 \times 2,500$

$= 75,000.$

45% of amount = $\frac{45}{100} \times 2,50,000$

$= 45 \times 2,500$

$= Rs 1,12,500$

25% of amount = $\frac{25}{100} \times 2,50,000$

$= 25 \times 2500$

$= 62,500.$

∴ Portions of amounts are

75,000, 1,12,500 and 62,500

Solution-06:-

Total no of students = 2400

40% of 2400 = $\frac{40}{100} \times 2400$

$= 40 \times 24$

$= 960$ girls

∴ No of Boys = Total - girls

$= 2400 - 960$

$= 1440$ boys

Solution-07:-

Aman obtained 410 marks out of 500

$= \frac{410}{500} \times 100$

$= 82\%$

Anish

536 marks out of 600 = $\frac{536}{600} \times 100$

$= 89\%$

Anish's performance better.

Solution-08:-

Total No of marks = 75

Rahim obtained = 60.

Required percent = $\frac{60}{75} \times 100$

= 80%.

Solution-09:-

Total number of trees = 240.

apple trees = $16\frac{2}{3}$ % of 240

= 16.66% of 240

= $\frac{16.66}{100} \times 240$

= 40

= 40 trees

No of trees other than apple = Total - apple trees

= (240-40)

= 200 trees

Solution-10:-

Ram obtained 553 out of 700

Ram percentage = $\frac{553}{700} \times 100\%$

= $\frac{553}{7}$

= 79%.

Gita scored 486 out of 600 in science

Gita percentage = $\frac{486}{600} \times 100$

= $\frac{486}{6}$

= 81%.

∴ Gita performance is better

Solution-11:-

Total income = RS 15000

Savings = income - expenditures

= RS 15,000 - 10,200

= RS 4,800.

percentage of income = $\frac{4800}{15000} \times 100 = 32\%$.

Solution - 12:-

Total number of students = 880

No of boys = 45% of student

= 45% of 880

$= \frac{45}{100} \times 880$

$= 45 \times 8.8$

= 396 boys

No of girls = Total - Boys

= 880 − 396

= 484 Girls

∴ No of girls = 484 girls