

1. Convert the following percents into fractions in simplest form:

(i) 25%

Solution:-

$$\begin{aligned} 25\% \text{ is written in the form for fraction as } &= 25/100 \\ &= \frac{1}{4} \end{aligned}$$

(ii) 150%

Solution:-

$$\begin{aligned} 150\% \text{ is written in the form for fraction as } &= 150/100 \\ &= 15/10 \\ &= 3/2 \end{aligned}$$

(iii) $7\frac{1}{2}\%$

Solution:-

First convert the mixed fraction into improper fraction,

$$7\frac{1}{2}\% = (15/2)\%$$

Then, $(15/2)\%$ is written in the form for fraction as $= (15/2)/100$

$$= (15/(2 \times 100))$$

$$= 15/200$$

$$= 3/40$$

(iv) $33\frac{1}{3}\%$

Solution:-

First convert the mixed fraction into improper fraction,

$$33\frac{1}{3}\% = (100/3)\%$$

Then, $(100/3)\%$ is written in the form for fraction as $= (100/3)/100$

$$= (100/(3 \times 100))$$

$$= 1/3$$

(2) Convert the following fractions into percents:

(i) $1/8$

Solution:-

$1/8$ is converted into percent as,

$$\begin{aligned} &= (1/8)/100 \\ &= (1/8) \times 100 \\ &= 12.5\% \end{aligned}$$

(ii) 5/4

Solution:-

5/4 is converted into percent as,

$$\begin{aligned} &= (5/4)/100 \\ &= (5/4) \times 100 \\ &= 5 \times 25 \\ &= 125\% \end{aligned}$$

(iii) 9/16

Solution:-

9/16 is converted into percent as,

$$\begin{aligned} &= (9/16)/100 \\ &= (9/16) \times 100 \\ &= 56\frac{1}{4}\% \end{aligned}$$

(iv) 3/7

Solution:-

3/7 is converted into percent as,

$$\begin{aligned} &= (3/7)/100 \\ &= (3/7) \times 100 \\ &= 42\frac{6}{7}\% \end{aligned}$$

(v) 11/15

Solution:-

11/15 is converted into percent as,

$$\begin{aligned} &= (11/15)/100 \\ &= (11/15) \times 100 \\ &= 73\frac{1}{3}\% \end{aligned}$$

(vi) $1\frac{3}{8}\%$

Solution:-

Convert the mixed fraction into improper fraction we get,

$11/8$

$11/8$ is converted into percent as,

$$= (11/8)/100$$

$$= (11/8) \times 100$$

$$= 137.5\%$$

3.

(i) 6 students out of 40 students in a class are absent. What percentage of the students are absent?

Solution:-

From the question it is given that,

Total number of students in the class is 40

Number of students were absent = 6

$$\begin{aligned} \text{Then, percentage of the students are absent} &= (6/40) \times 100 \\ &= 0.15 \times 100 \\ &= 15\% \end{aligned}$$

(ii) Antony secured 384 marks out of 500 marks. Find the percentage of marks secured by Antony.

Solution:-

From the question it is given that,

Antony secured 384 marks

Maximum marks = 500 mark

$$\begin{aligned} \text{Then, the percentage of marks secured by Antony} &= (384/500) \times 100 \\ &= 0.768 \times 100 \\ &= 76.8\% \end{aligned}$$

(iii) A shop has 500 shirts, out of which 15 are defective. What percentage of shirts are defective?

Solution:-

Total number of shirts that shop has = 500

Number of defective shirts = 15

$$\begin{aligned} \text{Then, percentage of shirts are defective} &= (15/500) \times 100 \\ &= 0.03 \times 100 \\ &= 3\% \end{aligned}$$

(iv) Vani has a collection of bangles. She has 20 gold bangles and 10 silver bangles.

What is the percentage of each type of bangles?

Solution:-

From the question it is given that,

Vani has a collection of bangles

Number of gold bangles = 20

Number of silver bangles = 10

Total number of bangles she has = $20 + 10 = 30$ bangles

Then, percentage of gold bangles = $(20/30) \times 100$

$$= 66.67\%$$

Percentage of silver bangles = $(10/30) \times 100$

$$= 33.34\%$$

(v) There are 120 voters, 90 of them voted. What percent did not vote?

Solution:-

From the question it is given that,

Total number of voters = 120

Number of voters voted = 90

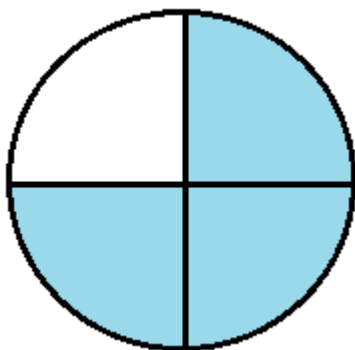
Number of voters did not vote = $120 - 90 = 30$

Then, percent did not vote = $(30/120) \times 100$

$$= 25\%$$

4. Estimate the part of the figure which is shaded and hence find the percentage of the part which is shaded.

(i)



Solution:-

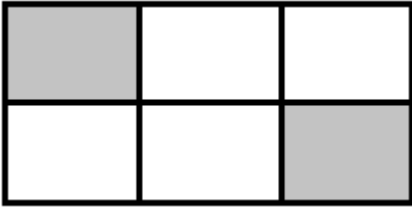
From the figure,

The shaded part = $\frac{3}{4}$

Then, the percentage of the part which is shaded = $(\frac{3}{4}) \times 100$

$$= 75\%$$

(ii)



Solution:-

From the figure,

$$\begin{aligned}\text{The shaded part} &= \frac{2}{6} \\ &= \frac{1}{3}\end{aligned}$$

$$\begin{aligned}\text{Then, the percentage of the part which is shaded} &= \left(\frac{1}{3}\right) \times 100 \\ &= 33.34\%\end{aligned}$$

(iii)



Solution:-

From the figure,

$$\text{The shaded part} = \frac{5}{8}$$

$$\begin{aligned}\text{Then, the percentage of the part which is shaded} &= \left(\frac{5}{8}\right) \times 100 \\ &= 62.5\%\end{aligned}$$

5. Convert the following percentages into ratios in simplest form:

(i) 14%

Solution:-

$$\begin{aligned}14\% \text{ can be written as,} \\ = \frac{14}{100}\end{aligned}$$

$$= 7/50$$

It can be written in ratio form as = 7: 50

(ii) 7/4%

Solution:-

7/4% can be written as,

$$= (7/4)/100$$

$$= 7/(4 \times 100)$$

$$= 7/400$$

It can be written in ratio form as = 7: 100

(iii) 100/3%

Solution:-

100/3% can be written as,

$$= (100/3)/100$$

$$= 100/(3 \times 100)$$

$$= 1/3$$

It can be written in ratio form as = 1: 3

(iv) 37.5%

Solution:-

37.5% can be written as,

$$= 37.5/100$$

$$= 375/1000$$

$$= 3/8$$

It can be written in ratio form as = 3: 8

6. Express the following ratios as percentages:

(i) 5: 4

Solution:-

Above ratios can be written as = 5/4

$$\text{Percentage} = (5/4) \times 100$$

$$= 5 \times 25$$

$$= 125\%$$

(ii) 1: 1

Solution:-

Above ratios can be written as = $1/1$
Percentage = $(1/1) \times 100$
= 100%

(iii) 2: 3

Solution:-

Above ratios can be written as = $2/3$
Percentage = $(2/3) \times 100$
= 66.67%

(iv) 9: 16

Solution:-

Above ratios can be written as = $9/16$
Percentage = $(9/16) \times 100$
= 0.5625×100
= 56.25%

7. An alloy consists of 7 parts of zinc and 33 parts of copper. Find the percentage of copper in the alloy.

Solution:-

From the question it is given that,
An alloy consists of 7 parts of zinc
33 parts of copper

Then, total parts contain in the alloy = $33 + 7 = 40$

So, percentage of copper in the alloy = $(33/40) \times 100$
= 82.5%