# Ch-15 Commercial Arithmetic (Percentage and Profit & Loss)

<u>Points to remember</u>

1) Percent comes from two Latin words 'per centum' which means **" per hundred or out of hundred".**

2) The symbol for percent is " % ".

## Self Practice 15B

1. **Fill in the blanks.**

    (a) The word 'per cent' means <u>per hundred</u>   (b) 32 per cent means $\frac{32}{100}$ .

    (c) $\frac{74}{100}$ is the same as <u>74%</u>.   (d) The symbol % is the sign for <u>percent</u>.

2. **Write each of the following as percentage.**

    (a) $\frac{30}{100}$     (b) $\frac{8}{100}$     (c) $\frac{12}{100}$     (d) $\frac{27}{100}$     (e) $\frac{43}{100}$   (f) $\frac{100}{100}$
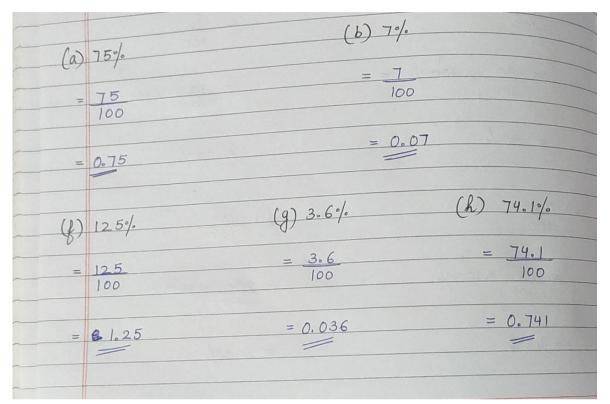
**Solution 2:-**

(a) $\frac{30}{100}$

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

$= 30\%$

(c) $\frac{12}{100}$

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

$= 12\%$

(e) $\frac{43}{100}$

$= \frac{43}{100} \times 100\%$

$= 43\%$

(f) $\frac{100}{100}$

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

$= 100\%$

**In Q2. (b) and (d) are homework**

**5.** Write each of the following as a decimal.

    (a) 75%        (b) 7%        (c) 1%        (d) 25%

    (e) 90%        (f) 125%       (g) 3.6%      (h) 74.1%

**Solution 5:-**

(a) 75%

$$= \frac{75}{100}$$

$$= 0.75$$

(b) 7%

$$= \frac{7}{100}$$

$$= 0.07$$

(f) 125%

$$= \frac{125}{100}$$

$$= 1.25$$

(g) 3.6%

$$= \frac{3.6}{100}$$

$$= 0.036$$

(h) 74.1%

$$= \frac{74.1}{100}$$
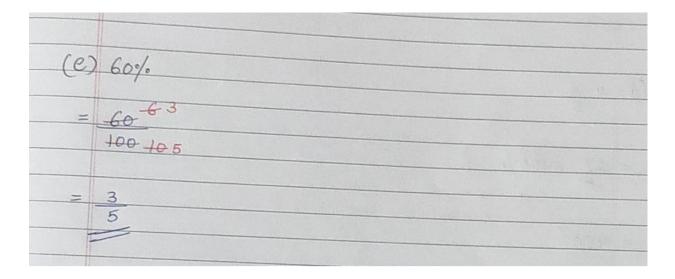
$$= 0.741$$

**In Q3. (c) , (d) and (e) are homework**

**6.** Express each of the following as a fraction with lowest terms.

    (a) 44%      (b) 10%      (c) 24%      (d) 96%      (e) 60%

**Solution 6:-**

(a) 44%

$$= \frac{44}{100}$$

$$= \frac{11}{25}$$

(c) 24%

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

$$= \frac{6}{25}$$

(e) 60%

$$= \frac{60^{\cancel{6}\ 3}}{100\ \cancel{100}\ 5}$$

$$= \frac{3}{5}$$
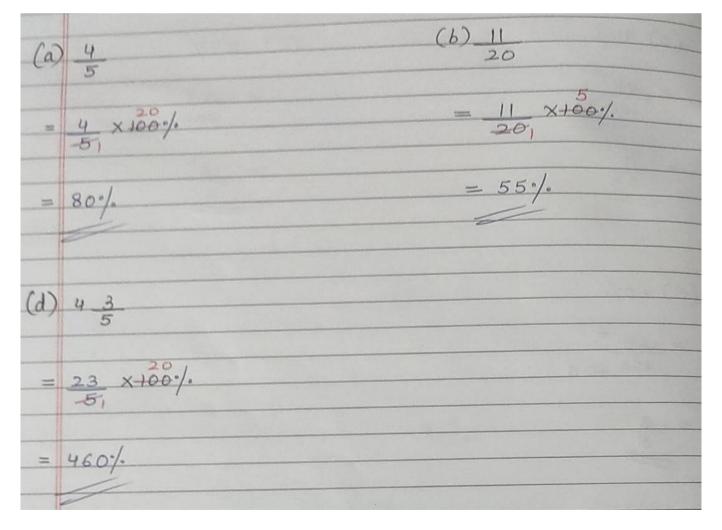
9.  Change each of the following fractions into a percentage.

(a) $\frac{4}{5}$    (b) $\frac{3}{10}$    (c) $\frac{11}{20}$    (d) $4\frac{3}{5}$    (e) $\frac{18}{40}$

## Solution 9:-

(a) $\frac{4}{5}$

$$= \frac{4}{\cancel{5}_1} \times 100^{20}\%$$

$$= 80\%$$

(b) $\frac{11}{20}$

$$= \frac{11}{\cancel{20}_1} \times 100^{5}\%$$

$$= 55\%$$

(d) $4\frac{3}{5}$

$$= \frac{23}{\cancel{5}_1} \times 100^{20}\%$$

$$= 460\%$$

**10. Change each of the following into a percentage.**

    (a) 4        (b) 8        (c) 1        (d) 12        (e) 25

## Solution 10:-

(a) 4

$= 4 \times 100\%$

$= 400\%$

(c) 1

$= 1 \times 100\%$

$= 100\%$

(e) 25

$= 25 \times 100\%$

$= 2500\%$

**In Q10. (b) and (d) are homework**

**11. Change each of the following decimals into a percentage.**

    (a) 1.4        (b) 0.48        (c) 0.05        (d) 3.65        (e) 5.50        (f) 4.05

    (g) 0.02        (h) 16.5        (i) 4.03

## Solution 11:-

(a) 1.4

$= 1.4 \times 100\%$

$= 140\%$

(c) 0.05

$= 0.05 \times 100\%$

$= 5\%$

(e) 5.50

$= 5.50 \times 100\%$

$= 550\%$

(h) 16.5

$= 16.5 \times 100\%$

$= 1650\%$

**In Q10. (b), (d), (f), (g) and (i) are homework**

**Q3, Q4, Q7, Q8 and Q12 are omitted**
**Self Practice-15C is omitted**