

Fractions and Decimals

(#) Proper fraction  $\Rightarrow$  Numerator is less than denominator is called proper fraction.

Ex:-  $\frac{4}{9}$  ,  $\frac{2}{3}$  ,  $\frac{5}{7}$  etc.

(#) Improper fraction  $\Rightarrow$  Numerator is greater than denominator is called improper fraction.

Ex:-  $\frac{9}{4}$  ,  $\frac{3}{2}$  ,  $\frac{7}{5}$  etc.

(#) Mixed fraction  $\Rightarrow$  Combination of whole and any fraction is mixed fraction.

Ex:-  $2\frac{3}{4}$  ,  $5\frac{2}{3}$  etc.  
= X =

Exercise = 2.1

Q.1) Solve!

(i)  $2 - \frac{3}{5} = \frac{2}{1} - \frac{3}{5} = \frac{2 \times 5 - 3 \times 1}{5} = \frac{10 - 3}{5} = \frac{7}{5}$

(ii)  $4 + \frac{7}{8} = \frac{4}{1} + \frac{7}{8} = \frac{4 \times 8 + 7 \times 1}{8} = \frac{32 + 7}{8} = \frac{39}{8}$

(iii)  $\frac{3}{5} + \frac{2}{7} = \frac{3 \times 7 + 2 \times 5}{35} = \frac{21 + 10}{35} = \frac{31}{35}$

(iv)  $\frac{9}{11} - \frac{4}{15} = \frac{9 \times 15 - 4 \times 11}{11 \times 15} = \frac{135 - 44}{165} = \frac{91}{165}$

(v)  $\frac{7}{10} + \frac{2}{5} + \frac{3}{2} = \frac{7 \times 1 + 2 \times 2 + 3 \times 5}{10} = \frac{7 + 4 + 15}{10} = \frac{26}{10}$

Here 49 7 30 7 14

So descending order  $\Rightarrow \frac{7}{10}, \frac{3}{7}, \frac{1}{5}$

=X=

Q. (3)

soln:-

$$\text{Row wise } \Rightarrow \frac{4}{11} + \frac{9}{11} + \frac{2}{11} = \frac{4+9+2}{11} = \frac{15}{11}$$

$$\frac{3}{11} + \frac{5}{11} + \frac{7}{11} = \frac{3+5+7}{11} = \frac{15}{11}$$

$$\frac{8}{11} + \frac{1}{11} + \frac{6}{11} = \frac{8+1+6}{11} = \frac{15}{11}$$

$$\text{Column wise } \Rightarrow \frac{4}{11} + \frac{3}{11} + \frac{8}{11} = \frac{4+3+8}{11} = \frac{15}{11}$$

$$\frac{9}{11} + \frac{5}{11} + \frac{1}{11} = \frac{9+5+1}{11} = \frac{15}{11}$$

$$\frac{2}{11} + \frac{7}{11} + \frac{6}{11} = \frac{2+7+6}{11} = \frac{15}{11}$$

$$\text{Diagonal wise } \Rightarrow \frac{4}{11} + \frac{5}{11} + \frac{6}{11} = \frac{4+5+6}{11} = \frac{15}{11}$$

$$\frac{8}{11} + \frac{5}{11} + \frac{2}{11} = \frac{8+5+2}{11} = \frac{15}{11}$$

Hence, all the values are same. So it is a magic square.

Q. (4)

soln:-

$$\text{Given!- length } l = 12\frac{1}{2} \text{ cm} = \frac{25}{2} \text{ cm}$$

$$\text{wide } b = 10\frac{2}{3} \text{ cm} = \frac{32}{3} \text{ cm}$$

$$\text{Perimeter of rectangle} = 2 \times (l + b)$$

$$= 2 \times \left( \frac{25}{2} + \frac{32}{3} \right) = 2 \times \left( \frac{25+32}{2} \right) = \frac{2 \times 57}{2} = 57 \text{ cm.}$$



$$= 2 \times \left( \frac{25 \times 3 + 3 \times 2}{6} \right)$$

$$= 2 \times \left( \frac{75 + 6}{6} \right)$$

$$= 2 \times \frac{139}{6}$$

$$= \frac{139}{3}$$

$$= 46 \frac{1}{3} \text{ cm}$$

$$\begin{array}{r} 3 \overline{) 139} \quad (46 \\ \underline{12} \phantom{0} \\ 19 \\ \underline{18} \\ 1 \end{array}$$

$$= 46 \frac{1}{3}$$

= x =

Q. (5)

Soln. (i)

perimeter of  $\triangle ABC = AB + BC + AC$

$$= \frac{5}{2} + 2 \frac{3}{4} + 3 \frac{3}{5}$$

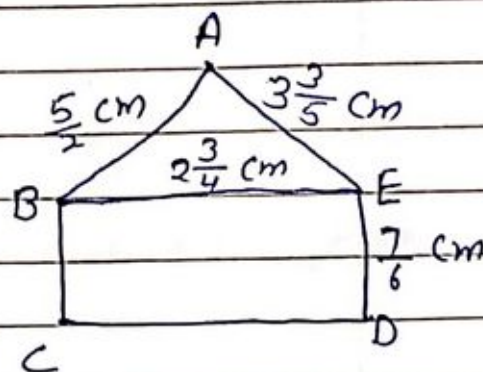
$$= \frac{5}{2} + \frac{11}{4} + \frac{18}{5}$$

$$= \frac{5 \times 10 + 11 \times 5 + 18 \times 4}{20}$$

$$= \frac{50 + 55 + 72}{20}$$

$$= \frac{177}{20}$$

$$= 8 \frac{17}{20} \text{ cm}$$



$$\begin{array}{r} 2 \overline{) 2,4,5} \\ \underline{2} \phantom{0} \\ 4 \phantom{0} \\ \underline{4} \phantom{0} \\ 5 \\ \underline{5} \\ 0 \end{array}$$

$$2 \times 2 \times 5 = 20$$

$$\left\{ \begin{array}{l} 20 \overline{) 177} \quad (8 \\ \underline{160} \\ 17 \end{array} \right.$$

$$\Rightarrow 8 \frac{17}{20}$$

$$\begin{array}{r|l} 2 & 4, 6 \\ 2 & 2, 3 \\ 3 & 1, 3 \\ \hline & 1, 1 \end{array}$$

(ii) Perimeters of rectangle =  $2 \times (l + b)$

$$= 2 \times \left( 2\frac{3}{4} + \frac{7}{6} \right)$$

$$= 2 \times \left( \frac{11}{4} + \frac{7}{6} \right)$$

$$= 2 \times \left( \frac{11 \times 3 + 7 \times 2}{12} \right)$$

$$= 2 \times \left( \frac{33 + 14}{12} \right)$$

$$= 2 \times \frac{47}{12}$$

$$\therefore \frac{177}{20} > \frac{47}{6} \quad \left| \begin{array}{l} = \frac{47}{6} \text{ cm} \\ = 7\frac{5}{6} \text{ cm} \end{array} \right.$$

So, perimeter of  $\triangle ABE >$  perimeter of  $\square BCDE$ .  
= x =

Q:- (6) Given.

Soln-

Width of picture =  $7\frac{3}{5} = \frac{38}{5}$  cm

Required width =  $7\frac{3}{10} = \frac{73}{10}$  cm.

So,

The picture should be trimmed by =  $\frac{38}{5} - \frac{73}{10}$

$$= \frac{38 \times 2 - 73 \times 1}{10}$$

$$= \frac{76 - 73}{10}$$

$$= \frac{3}{10} \text{ cm.}$$

= x =



Q: 7

Sol<sup>n</sup>

Given,

$$\text{part of apple eaten by Ritu} = \frac{3}{5}$$

So

$$\text{part of apple eaten by Somu} = 1 - \text{part of apple eaten by Ritu}$$

$$= 1 - \frac{3}{5} = \frac{1 \times 5 - 3 \times 1}{5}$$

$$= \frac{5-3}{5} = \frac{2}{5}$$

Therefore, some eat  $\frac{2}{5}$  part of apple.

$$\therefore \frac{3}{5} > \frac{2}{5}$$

So, Ritu had the larger share.

$$\text{Difference} = \frac{3}{5} - \frac{2}{5} = \frac{3-2}{5} = \frac{1}{5}$$

Therefore, Ritu's share is larger than the share of Somu by  $\frac{1}{5}$ .

=X=

Q: 8

Sol<sup>n</sup>

Given,

$$\text{Time taken by Michael} = \frac{7}{12} \text{ hour}$$

$$\text{Time taken by Vaibhav} = \frac{3}{4} \text{ hour}$$

Convert into like fraction

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12} \quad \text{and} \quad \frac{7}{12}$$

$\frac{9}{12} > \frac{7}{12}$ , so Vaibhav worked longer.

$$\text{Difference} = \frac{9}{12} - \frac{7}{12} = \frac{2}{12} = \frac{1}{6} \text{ hours}$$