CBSE NCERT Solutions for Class 7 Mathematics Chapter 2

Back of Chapter Questions

Exercise: 2.1

1. Solve:

(i) $2 - \dfrac{3}{5}$

(ii) $4 + \dfrac{7}{8}$

(iii) $\dfrac{3}{5} + \dfrac{2}{7}$

(iv) $\dfrac{9}{11} - \dfrac{4}{15}$

(v) $\dfrac{7}{10} + \dfrac{2}{5} + \dfrac{3}{2}$

(vi) $2\dfrac{2}{3} + 3\dfrac{1}{2}$

(vii) $8\dfrac{1}{2} - 3\dfrac{5}{8}$

Solution:

(i) $2 - \dfrac{3}{5}$

$\dfrac{2}{1} \times \dfrac{5}{5} = \dfrac{10}{5}$ (since the LCM of the denominators 1 and 5 is 5)

$\dfrac{10}{5} - \dfrac{3}{5} = \dfrac{10-3}{5}$

$= \dfrac{7}{5}$

$= 1\dfrac{2}{5}$ ($7 \div 5$ gives quotient 1 and remainder 2)

(ii) $4 + \dfrac{7}{8}$

$\dfrac{4}{1} \times \dfrac{8}{8} = \dfrac{32}{8}$ (since the LCM of the denominators 1 and 8 is 8)

$\dfrac{32}{8} + \dfrac{7}{8} = \dfrac{32+7}{8}$

$= \dfrac{39}{8}$

$= 4\dfrac{7}{8}$ ($39 \div 8$ gives quotient 4 and remainder 7)

(iii) $\dfrac{3}{5} + \dfrac{2}{7}$

$\dfrac{3}{5} \times \dfrac{7}{7} = \dfrac{21}{35}$ and $\dfrac{2}{7} \times \dfrac{5}{5} = \dfrac{10}{35}$ (since the LCM of the denominators 5 and 7 is 35)

$$\dfrac{21}{35} + \dfrac{10}{35} = \dfrac{21 + 10}{35}$$

$$= \dfrac{31}{35}$$

(iv) $\dfrac{9}{11} - \dfrac{4}{15}$

$\dfrac{9}{11} \times \dfrac{15}{15} = \dfrac{135}{165}$ and $\dfrac{4}{15} \times \dfrac{11}{11} = \dfrac{44}{165}$ (since the LCM of the denominators 11 and 15 is 165)

$$\dfrac{135}{165} - \dfrac{44}{165} = \dfrac{135 - 44}{165}$$

$$= \dfrac{91}{165}$$

(v) $\dfrac{7}{10} + \dfrac{2}{5} + \dfrac{3}{2} = \dfrac{7+4+15}{10}$ (since the LCM of the denominators 10, 5 and 2 is 10)

$$= \dfrac{26}{10} = \dfrac{13}{5}$$

$$= 2\dfrac{3}{5} \ (13 \div 5 \text{ gives quotient 2 and remainder 3})$$

(vi) $2\dfrac{2}{3} + 3\dfrac{1}{2} = \dfrac{8}{3} + \dfrac{7}{2}$

$$= \dfrac{16+21}{6} \ (\text{since the LCM of the denominators 3 and 2 is 6})$$

$$= \dfrac{37}{6}$$

$$= 6\dfrac{1}{6} \ (37 \div 6 \text{ gives quotient 6 and remainder 1})$$

(vii) $8\dfrac{1}{2} - 3\dfrac{5}{8} = \dfrac{17}{2} - \dfrac{29}{8}$

$$= \dfrac{68-29}{8} \ (\text{since the LCM of the denominators 2 and 8 is 8})$$

$$= \dfrac{39}{8}$$

$$= 4\dfrac{7}{8} \ (39 \div 8 \text{ gives quotient 4 and remainder 7})$$

2.   Arrange the following in descending order:

(i) $\frac{2}{9}, \frac{2}{3}, \frac{8}{21}$

(ii) $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}$

Solution:

(i) $\frac{2}{9}, \frac{2}{3}, \frac{8}{21}$

The above fractions are unlike fractions (i.e., the denominators are not the same)

The LCM of the denominators $9, 3$ and 21 is 63

$$\frac{2}{9} \times \frac{7}{7} = \frac{14}{63}$$

$$\frac{2}{3} \times \frac{21}{21} = \frac{42}{63}$$

$$\frac{8}{21} \times \frac{3}{3} = \frac{24}{63}$$

∴ the descending order of the fractions is $\frac{42}{63} > \frac{24}{63} > \frac{14}{63}$

i.e., $\frac{2}{3} > \frac{8}{21} > \frac{2}{9}$

(ii) $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}$

The above fractions are unlike fractions (i.e., the denominators are not the same)

The LCM of the denominators $5, 7$ and 10 is 70

$$\frac{1}{5} \times \frac{14}{14} = \frac{14}{70}$$

$$\frac{3}{7} \times \frac{10}{10} = \frac{30}{70}$$

$$\frac{7}{10} \times \frac{7}{7} = \frac{49}{70}$$

∴ the descending order of the fractions is $\frac{49}{70} > \frac{30}{70} > \frac{14}{70}$

i.e., $\frac{7}{10} > \frac{3}{7} > \frac{1}{5}$

3.   In a "magic square", the sum of the numbers in each row, in each column and along the diagonals is the same. Is this a magic square? Along the first row

$$\frac{4}{11} + \frac{9}{11} + \frac{2}{11} = \frac{15}{11}$$

$\dfrac{4}{11}$	$\dfrac{9}{11}$	$\dfrac{2}{11}$
$\dfrac{3}{11}$	$\dfrac{5}{11}$	$\dfrac{7}{11}$
$\dfrac{8}{11}$	$\dfrac{1}{11}$	$\dfrac{6}{11}$

Solution:

Sum of the remaining rows:

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

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

Sum of the three columns

$$\frac{4}{11} + \frac{3}{11} + \frac{8}{11} = \frac{15}{11}$$

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

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

Sum of the diagonals

$$\frac{4}{11} + \frac{5}{11} + \frac{6}{11} = \frac{15}{11}$$

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

The sum of the fractions row wise, column wise and diagonal wise is the same i.e., $\frac{15}{11}$

Hence, it is a magic square

4. A rectangular sheet of paper is $12\frac{1}{2}$ cm long and $10\frac{2}{3}$ cm wide. Find its perimeter.
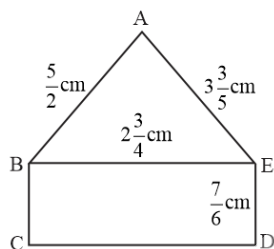
Solution:

Length, l $= 12\frac{1}{2} = \frac{25}{2}$ cm Breadth, b $= 10\frac{2}{3} = \frac{32}{3}$ cm

Perimeter of the sheet $= 2\,(l + b)$

$$= 2 \left(\frac{25}{2} + \frac{32}{3} \right)$$

$$= 2 \left(\frac{75+64}{6} \right) \text{ (since the LCM of the denominators 2 and 3 is 6)}$$

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

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

$$= 46\frac{1}{3} \text{ cm (139} \div 3 \text{ gives quotient 46 and remainder 1)}$$

Therefore, the perimeter of the rectangular sheet is $46\frac{1}{3}$ cm

5. Find the perimeters of (i) Δ ABE (ii) the rectangle BCDE in this figure. Whose perimeter is greater?

Solution:

Given that AB $= \frac{5}{2}$ cm, BE $= 2\frac{3}{4} = \frac{11}{4}$ cm AE $= 3\frac{3}{5} = \frac{18}{5}$ cm

Perimeter of a triangle = sum of the three sides

Perimeter of the Δ ABE = AB + BE + AE

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

$$= \frac{50+55+72}{20} \text{ (since the LCM of the denominators 2, 4 and 5 is 20)}$$

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

$$= 8\frac{17}{20} \text{ cm (177} \div 20 \text{ gives quotient 8 and remainder 17)}$$

Therefore, the perimeter of the Δ ABE is $8\frac{17}{20}$ cm

(ii)   Length (BE = CD) l $= 2\frac{3}{4} = \frac{11}{4}$ cm Breadth (BC = ED) b $= \frac{7}{6}$ cm

Perimeter of a rectangle BCDE = 2 (l + b)

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

$$= 2\left(\frac{33+14}{12}\right) \text{ (since the LCM of the denominators 4 and 6 is 12)}$$

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

$$= \frac{47}{6}$$

$$= 7\frac{5}{6} \text{ cm } (47 \div 6 \text{ gives quotient 7 and remainder 5)}$$

Now, $8\frac{17}{20}$ cm $> 7\frac{5}{6}$ cm

Therefore, the perimeter of the triangle ABE is greater than the rectangle BCDE is $7\frac{5}{6}$ cm

6. Salil wants to put a picture in a frame. The picture is $7\frac{3}{5}$ cm wide. To fit in the frame the picture cannot be more than $7\frac{3}{10}$ cm wide. How much should the picture be trimmed?

    Solution:

    The size of the picture $= 7\frac{3}{5} = \frac{38}{5}$ cm

    The size of the picture that will fit in the frame $= 7\frac{3}{10} = \frac{73}{10}$ cm

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

    $= \frac{76-73}{10}$ (since the LCM of the denominators 5 and 10 is 10)

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

7. Ritu ate $\frac{3}{5}$ part of an apple and the remaining apple was eaten by her brother Somu. How much part of the apple did Somu eat? Who had the larger share? By how much?

    Solution:

    Part of the apple eaten by Ritu $= \frac{3}{5}$

    Part of the apple eaten by Somu $= 1 - \frac{3}{5}$

    $= \frac{5-3}{5}$(since the LCM of the denominators 1 and 5 is 5)

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

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

∴ Ritu has eaten the larger share by$= \frac{3}{5} - \frac{2}{5}$

$$= \frac{1}{5}$$

8. Michael finished colouring a picture in $\frac{7}{12}$ hour. Vaibhav finished colouring the same picture in $\frac{3}{4}$ hour. Who worked longer? By what fraction was it longer?

Solution:

Time taken by Michael to colour the picture $= \frac{7}{12}$ hour

Time taken by Vaibhav to colour the picture $= \frac{3}{4}$ hour

$\frac{7}{12} \times \frac{1}{1} = \frac{7}{12}$ (since the LCM of the denominators 12 and 4 is 12)

$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$ (since the LCM of the denominators 12 and 4 is 12)

$\frac{9}{12} > \frac{7}{12}$ i.e., $\frac{3}{4} > \frac{7}{12}$

∴ Vaibhav has taken longer time than Michael

$$\Rightarrow \frac{9}{12} - \frac{7}{12} = \frac{2}{12} = \frac{1}{6}$$

Therefore, Vaibhav has taken $\frac{1}{6}$ hour longer than Michael to colour the picture

Exercise: 2.2

1. Which of the drawings (a) to (d) show:

(i) $2 \times \frac{1}{5}$

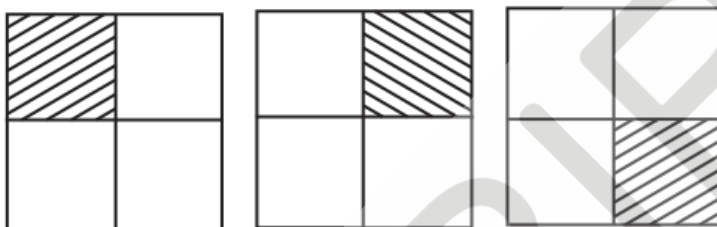(ii) $2 \times \frac{1}{2}$

(iii) $3 \times \frac{2}{3}$

(iv) $3 \times \frac{1}{4}$

(a)

(b)

(c)

(d)

Solution:

$$2 \times \frac{1}{5} = (d) \Rightarrow 2 \times \frac{1}{5} = \frac{1}{5} + \frac{1}{5}$$

$$2 \times \frac{1}{2} = (b) \Rightarrow 2 \times \frac{1}{2} = \frac{1}{2} + \frac{1}{2}$$

$$3 \times \frac{2}{3} = (a) \Rightarrow 3 \times \frac{2}{3} = \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$$

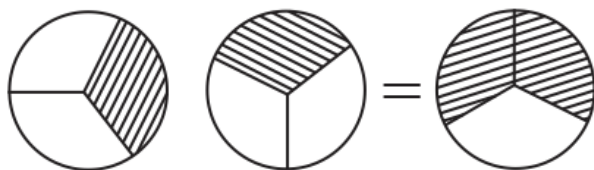$$3 \times \frac{1}{4} = (c) \Rightarrow \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

2. Some pictures (a) to (c)are given below. Tell which of them show:

(i) $3 \times \frac{1}{5} = \frac{3}{5}$

(ii) $2 \times \frac{1}{3} = \frac{2}{3}$

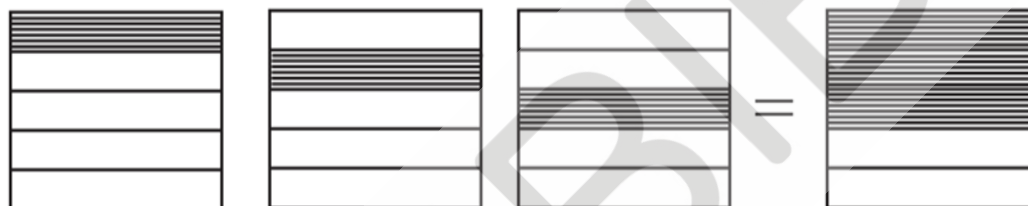(iii) $3 \times \frac{3}{4} = 2\frac{1}{4}$

(a)

(b)

(c)

Solution:

$$3 \times \frac{1}{5} = \frac{3}{5} = (c) \Rightarrow 3 \times \frac{1}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$$

$$2 \times \frac{1}{3} = \frac{2}{3} = (a) \Rightarrow 2 \times \frac{1}{3} = \frac{1}{3} + \frac{1}{3}$$

$$3 \times \frac{3}{4} = 2\frac{1}{4} = (b) \Rightarrow 3 \times \frac{3}{4} = 2\frac{1}{4} = \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

3.   Multiply and reduce to lowest form and convert into a mixed fraction:

(i) $7 \times \frac{3}{5}$

(ii) $4 \times \frac{1}{3}$

(iii) $2 \times \frac{6}{7}$

(iv) $5 \times \frac{2}{9}$

(v) $\frac{2}{3} \times 4$

(vi) $\frac{5}{2} \times 6$

(vii) $11 \times \frac{4}{7}$

(viii) $20 \times \frac{4}{5}$

(ix) $13 \times \frac{1}{3}$

(x) $15 \times \frac{3}{5}$

Solution:

$$7 \times \frac{3}{5} = \frac{21}{5} = 4\frac{1}{5}$$

$$4 \times \frac{1}{3} = \frac{4}{3} = 1\frac{1}{3}$$

$$2 \times \frac{6}{7} = \frac{12}{7} = 1\frac{5}{7}$$

$$5 \times \frac{2}{9} = \frac{10}{9} = 1\frac{1}{9}$$

$$\frac{2}{3} \times 4 = \frac{8}{3} = 2\frac{2}{3}$$
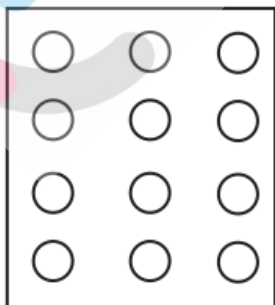
$$\frac{5}{2} \times 6 = 15$$

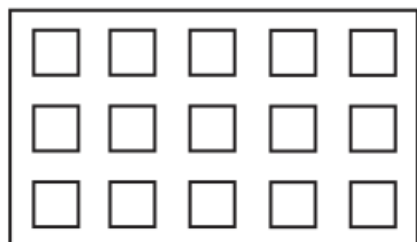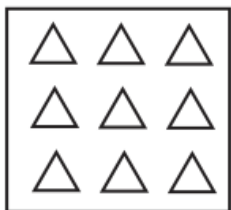$$11 \times \frac{4}{7} = \frac{44}{7} = 6\frac{2}{7}$$

$$20 \times \frac{4}{5} = 16$$

$$13 \times \frac{1}{3} = \frac{13}{3} = 4\frac{1}{3}$$
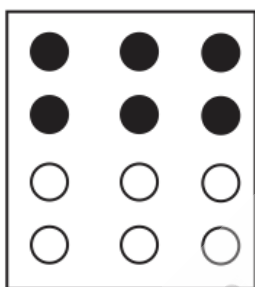
$$15 \times \frac{3}{5} = 9$$

4.   Shade: (i) $\frac{1}{2}$ of the circles in box (a) (ii) $\frac{2}{3}$ of the triangles in box (b) (iii) $\frac{3}{5}$ of the squares in box (c)
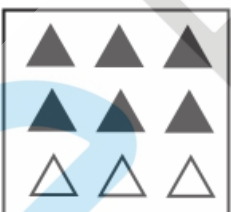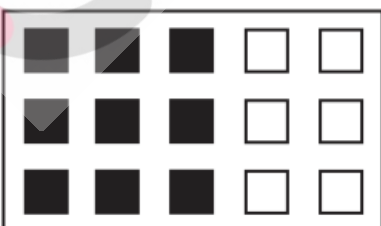
Solution:

Shade $\frac{1}{2}$ of the circles in box (a)

Shade $\frac{2}{3}$ of the triangles in box (b)

Shade $\frac{3}{5}$ of the squares in box (c)

5.   Find

(a) $\frac{1}{2}$ of (i) 24 (ii) 46

(b) $\frac{2}{3}$ of (i) 18 (ii) 27

(c) $\frac{3}{4}$ of (i) 16(ii)   36

(d) $\frac{4}{5}$ of (i) 20 (ii) 35

Solution:

(i) $\frac{1}{2}$ of $24 = \frac{1}{2} \times 24$

        $= 12$

(ii) $\frac{1}{2}$ of $46 = \frac{1}{2} \times 46$

        $= 23$

(i) $\frac{2}{3}$ of $18 = \frac{2}{3} \times 18$

        $= 12$

(ii) $\frac{2}{3}$ of $27 = \frac{2}{3} \times 27$

        $= 18$

(i) $\frac{3}{4}$ of $16 = \frac{3}{4} \times 16$

        $= 12$

(ii) $\frac{3}{4}$ of $36 = \frac{3}{4} \times 36$

        $= 27$

(i) $\frac{4}{5}$ of $20 = \frac{4}{5} \times 20$

        $= 16$

(ii) $\frac{4}{5}$ of $35 = \frac{4}{5} \times 35$

        $=28$

6.   Multiply and express as a mixed fraction:

(a) $3 \times 5\frac{1}{5}$

(b) $5 \times 6\frac{3}{4}$

(c) $7 \times 2\frac{1}{4}$

(d) $4 \times 6\frac{1}{3}$

(e) $3\frac{1}{4} \times 6$

(f) $3\frac{2}{5} \times 8$

Solution:

(a) $3 \times 5\frac{1}{5} = 3 \times \frac{26}{5}$

$= \frac{78}{5}$

$= 15\frac{3}{5}$(since $78 \div 5$ gives 15 as quotient and 3 as remainder)

(b) $5 \times 6\frac{3}{4} = 5 \times \frac{27}{4}$

$= \frac{135}{4}$

$= 33\frac{3}{4}$(since $135 \div 4$ gives 33 as quotient and 3 as remainder)

(c) $7 \times 2\frac{1}{4} = 7 \times \frac{9}{4}$

$= \frac{63}{4}$

$= 15\frac{3}{4}$(since $63 \div 4$ gives 15 as quotient and 3 as remainder)

(d) $4 \times 6\frac{1}{3} = 4 \times \frac{19}{3}$

$= \frac{76}{3}$

$= 25\frac{1}{3}$(since $76 \div 3$ gives 25 as quotient and 1 as remainder)

(e) $3\frac{1}{4} \times 6 = \frac{13}{4} \times 6$

$= \frac{39}{2}$

$= 19\frac{1}{2}$(since $39 \div 2$ gives 19 as quotient and 1 as remainder)

(f) $3\frac{2}{5} \times 8 = \frac{17}{5} \times 8$

$= \frac{136}{5}$

$= 27\frac{1}{5}$(since $136 \div 5$ gives 27 as quotient and 1 as remainder)

7.   Find:

(a) $\frac{1}{2}$of (i) $2\frac{3}{4}$ (ii) $4\frac{2}{9}$

(b) $\frac{5}{8}$of (i) $3\frac{5}{6}$ (ii) $9\frac{2}{3}$

Solution:

(a)   (i) $\frac{1}{2}$ of $2\frac{3}{4} = \frac{1}{2} \times \frac{11}{4}$

$= \frac{11}{8}$

$= 1\frac{3}{8}$(since $11 \div 8$ gives 1 as quotient and 3 as remainder)

(ii) $\frac{1}{2}$ of $4\frac{2}{9} = \frac{1}{2} \times \frac{38}{9}$

$= \frac{19}{9}$

$= 2\frac{1}{9}$(since $19 \div 9$ gives 2 as quotient and 1 as remainder)

(b)   (i) $\frac{5}{8}$ of $3\frac{5}{6} = \frac{5}{8} \times \frac{23}{6}$

$= \frac{115}{48}$

$= 2\frac{19}{48}$(since $115 \div 48$ gives 2 as quotient and 19 as remainder)

(ii) $\frac{5}{8}$ of $9\frac{2}{3} = \frac{5}{8} \times \frac{29}{3}$

$= \frac{145}{24}$

$= 6\frac{1}{24}$(since $145 \div 24$ gives 6 as quotient and 1 as remainder)

8.   Vidya and Pratap went for a picnic. Their mother gave them a water bottle that contained 5 litres of water. Vidya consumed $\frac{2}{5}$ of the water. Pratap consumed the remaining water.

(i)   How much water did Vidya drink?

(ii)   What fraction of the total quantity of water did Pratap drink?

Solution:

Amount of water in the bottle $= 5$ litres

water consumed by Vidya $= \frac{2}{5}$

Therefore, amount of water Vidya drank $= \frac{2}{5} \times 5$

$= 2$ litres

Fraction of water in the bottle $= 1$ (whole)

water consumed by Vidya $= \frac{2}{5}$

Therefore, fraction of water consumed by Pratap $= 1 - \frac{2}{5}$

$= \frac{5-2}{5}$ (LCM of 1 and 5 is 5)

$= \frac{3}{5}$

Exercise: 2.3

1. Find:

$\frac{1}{2}$ of (a) $\frac{1}{4}$ (b) $\frac{3}{5}$ (c) $\frac{4}{3}$

$\frac{1}{7}$ of (a) $\frac{2}{9}$ (b) $\frac{6}{5}$ (c) $\frac{3}{10}$

Solution:

(a) $\frac{1}{2}$ of $\frac{1}{4} = \frac{1}{2} \times \frac{1}{4}$

$= \frac{1}{8}$

(b) $\frac{1}{2}$ of $\frac{3}{5} = \frac{1}{2} \times \frac{3}{5}$

$= \frac{3}{10}$

(c) $\frac{1}{2}$ of $\frac{4}{3} = \frac{1}{2} \times \frac{4}{3}$

$= \frac{2}{3}$

(a) $\frac{1}{7}$ of $\frac{2}{9} = \frac{1}{7} \times \frac{2}{9}$

$= \frac{2}{63}$

(b) $\frac{1}{7}$ of $\frac{6}{5} = \frac{1}{7} \times \frac{6}{5}$

$= \frac{6}{35}$

(c) $\frac{1}{7}$ of $\frac{3}{10} = \frac{1}{7} \times \frac{3}{10}$

$$= \frac{3}{70}$$

2.   Multiply and reduce to lowest form (if possible)

(i) $\frac{2}{3} \times 2\frac{2}{3}$

(ii) $\frac{2}{7} \times \frac{7}{9}$

(iii) $\frac{3}{8} \times \frac{6}{4}$

(iv) $\frac{9}{5} \times \frac{3}{5}$

(v) $\frac{1}{3} \times \frac{15}{8}$

(vi) $\frac{11}{2} \times \frac{3}{10}$

(vii) $\frac{4}{5} \times \frac{12}{7}$

Solution:

(i) $\frac{2}{3} \times 2\frac{2}{3} = \frac{2}{3} \times \frac{8}{3}$

$$= \frac{16}{9}$$

$$= 1\frac{7}{9}$$

(ii) $\frac{2}{7} \times \frac{7}{9} = \frac{2}{9}$

(iii) $\frac{3}{8} \times \frac{6}{4} = \frac{9}{16}$

(iv) $\frac{9}{5} \times \frac{3}{5} = \frac{27}{25}$

$$= 1\frac{2}{25}$$

(v) $\frac{1}{3} \times \frac{15}{8} = \frac{5}{8}$

(vi) $\frac{11}{2} \times \frac{3}{10} = \frac{33}{20}$

$$= 1\frac{13}{20}$$

(vii) $\frac{4}{5} \times \frac{12}{7} = \frac{48}{35}$

$$= 1\frac{13}{35}$$

3.   Multiply the following fractions:

(i) $\frac{2}{5} \times 5\frac{1}{4}$

(ii) $6\frac{2}{5} \times \frac{7}{9}$

(iii) $\frac{3}{2} \times 5\frac{1}{3}$

(iv) $\frac{5}{6} \times 2\frac{3}{7}$

(v) $3\frac{2}{5} \times \frac{4}{7}$

(vi) $2\frac{3}{5} \times 3$

(vii) $3\frac{4}{7} \times \frac{3}{5}$

Solution:

(i) $\frac{2}{5} \times 5\frac{1}{4} = \frac{2}{5} \times \frac{21}{4}$

$$= \frac{21}{10}$$

$$= 2\frac{1}{10}$$

(ii) $6\frac{2}{5} \times \frac{7}{9} = \frac{32}{5} \times \frac{7}{9}$

$$= \frac{224}{45}$$

$$= 4\frac{44}{45}$$

(iii) $\frac{3}{2} \times 5\frac{1}{3} = \frac{3}{2} \times \frac{16}{3}$

$$= 8$$

(iv) $\frac{5}{6} \times 2\frac{3}{7} = \frac{5}{6} \times \frac{17}{7}$

$$= \frac{85}{42}$$

$$= 2\frac{1}{42}$$

(v) $3\frac{2}{5} \times \frac{4}{7} = \frac{17}{5} \times \frac{4}{7}$

$= \frac{68}{35}$

$= 1\frac{33}{35}$

(vi) $2\frac{3}{5} \times 3 = \frac{13}{5} \times 3$

$= \frac{39}{5}$

$= 7\frac{4}{5}$

(vii) $3\frac{4}{7} \times \frac{3}{5} = \frac{25}{7} \times \frac{3}{5}$

$= \frac{15}{7}$

$= 2\frac{1}{7}$

4.   Which is greater:

$\frac{2}{7}$ of $\frac{3}{4}$ or $\frac{3}{5}$ of $\frac{5}{8}$

$\frac{1}{2}$ of $\frac{6}{7}$ or $\frac{2}{3}$ of $\frac{3}{7}$

Solution:

$\frac{2}{7}$ of $\frac{3}{4}$ or $\frac{3}{5}$ of $\frac{5}{8}$

$\frac{2}{7}$ of $\frac{3}{4} = \frac{2}{7} \times \frac{3}{4}$

$= \frac{3}{14}$

$\frac{3}{5}$ of $\frac{5}{8} = \frac{3}{5} \times \frac{5}{8}$

$= \frac{3}{8}$

$\Rightarrow \frac{3}{8} > \frac{3}{14}$ (when the numerator is equal, the fraction with smaller denominator is greater)

Therefore, $\frac{3}{8}$ is greater than $\frac{3}{14}$

$\frac{1}{2}$ of $\frac{6}{7}$ or $\frac{2}{3}$ of $\frac{3}{7}$

$\frac{1}{2}$ of $\frac{6}{7} = \frac{1}{2} \times \frac{6}{7}$

$= \frac{3}{7}$

$\frac{2}{3}$ of $\frac{3}{7} = \frac{2}{3} \times \frac{3}{7}$

$= \frac{2}{7}$

$\Rightarrow \frac{3}{7} > \frac{2}{7}$

Therefore, $\frac{3}{7}$ is greater than $\frac{2}{7}$

5. Saili plants 4 saplings, in a row, in her garden. The distance between two adjacent saplings is $\frac{3}{4}$ m. Find the distance between the first and the last sapling.

Solution:

No of saplings in a row in the garden $= 4$

The distance between two adjacent saplings $= \frac{3}{4}$ m

Therefore, the distance between the first and the last sapling $= 3 \times \frac{3}{4}$

$= \frac{9}{4}$

$= 2\frac{1}{4}$ m

6. Lipika reads a book for $1\frac{3}{4}$ hours every day. She reads the entire book in 6 days. How many hours in all were required by her to read the book?

Solution:

Time spent every day by Lipika in reading the book $= 1\frac{3}{4} = \frac{7}{4}$ hours

No of days she takes to finish the entire book $= 6$ days

Therefore, total hours required by her to read the book $= \frac{7}{4} \times 6$

$= \frac{21}{2}$

$= 10\frac{1}{2}$ hours

7.   A car runs 16 km using 1 litre of petrol. How much distance will it cover using $2\frac{3}{4}$ litres of petrol?

Solution:

The distance covered by the car using 1 litre of petrol $= 16$ kms

Therefore, distance covered using $2\frac{3}{4}$ litres $= 2\frac{3}{4} \times 16$

$= \dfrac{11}{4} \times 16$

$= 44$ kms

(a)   (i)   Provide the number in the box ☐ , such that $\frac{2}{3} \times ☐ = \frac{10}{30}$

(ii)   The simplest form of the number obtained in ☐ is _____ .

(b)   (i)   Provide the number in the box ☐ , such that $\frac{3}{5} \times ☐ = \frac{24}{75}$

(ii)   The simplest form of the number obtained in ☐ is _____ .

Solution:

(a)   (i) $\frac{2}{3} \times ☐ = \frac{10}{30}$

$= \dfrac{10}{30} \times \dfrac{3}{2}$

$= \dfrac{5}{10}$

(ii)   The simplest form of the number $= \dfrac{1}{2}$

(b)   (i) $\frac{3}{5} \times ☐ = \frac{24}{75}$

$= \dfrac{24}{75} \times \dfrac{5}{3}$

$= \dfrac{8}{15}$

(ii)   The simplest form of the number $= \dfrac{8}{15}$

Exercise: 2.4

1.   Find:

(i) $12 \div \frac{3}{4}$

(ii) $14 \div \frac{5}{6}$

(iii) $8 \div \frac{7}{3}$

(iv) $4 \div \frac{8}{3}$

(v) $3 \div 2\frac{1}{3}$

(vi) $5 \div 3\frac{4}{7}$

Solution:

(i) $12 \div \frac{3}{4} = 12 \times \frac{4}{3}$

       $= 16$

(ii) $14 \div \frac{5}{6} = 14 \times \frac{6}{5}$

         $= \frac{84}{5}$

         $= 16\frac{4}{5}$

(iii) $8 \div \frac{7}{3} = 8 \times \frac{3}{7}$

         $= \frac{24}{7}$

         $= 3\frac{3}{7}$

(iv) $4 \div \frac{8}{3} = 4 \times \frac{3}{8}$

         $= \frac{3}{2}$

         $= 1\frac{1}{2}$

(v) $3 \div 2\frac{1}{3} = 3 \times \frac{3}{7}$

         $= \frac{9}{7}$

         $= 1\frac{2}{7}$

(vi) $5 \div 3\frac{4}{7} = 5 \times \frac{7}{25}$

$$= \frac{7}{5}$$

$$= 1\frac{2}{5}$$

2. Find the reciprocal of each of the following fractions. Classify the reciprocals as proper fractions, improper fractions and whole numbers.

   (i) $\frac{3}{7}$

   (ii) $\frac{5}{8}$

   (iii) $\frac{9}{7}$

   (iv) $\frac{6}{5}$

   (v) $\frac{12}{7}$

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

   (vii) $\frac{1}{11}$

   Solution:

   (i) $\frac{3}{7}$

            Reciprocal of $\frac{3}{7}$ is $\frac{7}{3}$ and $\frac{7}{3}$ is an improper fraction

   (ii) $\frac{5}{8}$

            Reciprocal of $\frac{5}{8}$ is $\frac{8}{5}$ and $\frac{8}{5}$ is an improper fraction

   (iii) $\frac{9}{7}$

            Reciprocal of $\frac{9}{7}$ is $\frac{7}{9}$ and $\frac{7}{9}$ is a proper fraction

   (iv) $\frac{6}{5}$

            Reciprocal of $\frac{6}{5}$ is $\frac{5}{6}$ and $\frac{5}{6}$ is a proper fraction

   (v) $\frac{12}{7}$

            Reciprocal of $\frac{12}{7}$ is $\frac{7}{12}$ and $\frac{7}{12}$ is a proper fraction

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

Reciprocal of $\frac{1}{8}$ is $\frac{8}{1}$=8 and 8 is a whole number

(vii) $\frac{1}{11}$

Reciprocal of $\frac{1}{11}$ is $\frac{11}{1}$ =11 and 11 is a whole fraction

3.   Find:

(i) $\frac{7}{3} \div 2$

(ii) $\frac{4}{9} \div 5$

(iii) $\frac{6}{13} \div 7$

(iv) $4\frac{1}{3} \div 3$

(v) $3\frac{1}{2} \div 4$

(vi) $4\frac{3}{7} \div 7$

Solution:

(i) $\frac{7}{3} \div 2 = \frac{7}{3} \times \frac{1}{2}$

$$= \frac{7}{6}$$

(ii) $\frac{4}{9} \div 5 = \frac{4}{9} \times \frac{1}{5}$

$$= \frac{4}{45}$$

(iii) $\frac{6}{13} \div 7 = \frac{6}{13} \times \frac{1}{7}$

$$= \frac{6}{91}$$

(iv) $4\frac{1}{3} \div 3 = \frac{13}{3} \div 3$

$$= \frac{13}{3} \times \frac{1}{3}$$

$$= \frac{13}{9}$$

(v) $3\frac{1}{2} \div 4 = \frac{7}{2} \div 4$

$$= \frac{7}{2} \times \frac{1}{4}$$

$$= \frac{7}{8}$$

(vi) $4\frac{3}{7} \div 7 = \frac{31}{7} \div 7$

$$= \frac{31}{7} \times \frac{1}{7}$$

$$= \frac{31}{49}$$

4.   Find:

(i) $\frac{2}{5} \div \frac{1}{2}$

(ii) $\frac{4}{9} \div \frac{2}{3}$

(iii) $\frac{3}{7} \div \frac{8}{7}$

(iv) $2\frac{1}{3} \div \frac{3}{5}$

(v) $3\frac{1}{2} \div \frac{8}{3}$

(vi) $\frac{2}{5} \div 1\frac{1}{2}$

(vii) $3\frac{1}{5} \div 1\frac{2}{3}$

(viii) $2\frac{1}{5} \div 1\frac{1}{5}$

Solution:

(i) $\frac{2}{5} \div \frac{1}{2} = \frac{2}{5} \times \frac{2}{1}$

$$= \frac{4}{5}$$

(ii) $\frac{4}{9} \div \frac{2}{3} = \frac{4}{9} \times \frac{3}{2}$

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

(iii) $\frac{3}{7} \div \frac{8}{7} = \frac{3}{7} \times \frac{7}{8}$

$$= \frac{3}{8}$$

(iv) $2\frac{1}{3} \div \frac{3}{5} = \frac{7}{3} \div \frac{3}{5}$

$$= \frac{7}{3} \times \frac{5}{3}$$

$$= \frac{35}{9}$$

$$= 3\frac{8}{9}$$

(v) $3\frac{1}{2} \div \frac{8}{3} = \frac{7}{2} \div \frac{8}{3}$

$$= \frac{7}{2} \times \frac{3}{8}$$

$$= \frac{21}{16}$$

$$= 1\frac{5}{16}$$

(vi) $\frac{2}{5} \div 1\frac{1}{2} = \frac{2}{5} \div \frac{3}{2}$

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

$$= \frac{4}{15}$$

(vii) $3\frac{1}{5} \div 1\frac{2}{3} = \frac{16}{5} \div \frac{5}{3}$

$$= \frac{16}{5} \times \frac{3}{5}$$

$$= \frac{48}{25}$$

$$= 1\frac{23}{25}$$

(viii) $2\frac{1}{5} \div 1\frac{1}{5} = \frac{11}{5} \div \frac{6}{5}$

$$= \frac{11}{5} \times \frac{5}{6}$$

$$= \frac{11}{6}$$

$$= 1\frac{5}{6}$$

Exercise: 2.5

1. Which is greater?

    (i)   0.5 or 0.05

    (ii)   0.7 or 0.5

    (iii)   7 or 0.7

    (iv)   1.37 or 1.49

    (v)   2.03 or 2.30

    (vi)   0.8 or 0.88

Solution:

    (i)   0.5 or 0.05

$$0.5 = \frac{5}{10}$$

$$0.05 = \frac{5}{100}$$

$\Rightarrow \frac{5}{10} > \frac{5}{100}$ (when the numerator is equal, the fraction with the smaller denominator is greater)

Therefore, 0.5 is greater than 0.05

    (ii)   0.7 or 0.5

$$0.7 = \frac{7}{10}$$

$$0.5 = \frac{5}{10}$$

$\Rightarrow \frac{7}{10} > \frac{5}{10}$ [when the denominator is equal (like fractions), the fraction with the greater numerator is greater]

Therefore, 0.7 is greater than 0.5

    (iii)   7 or 0.7

$$7 = \frac{7}{1}$$

$$0.7 = \frac{7}{10}$$

$\Rightarrow \frac{7}{1} > \frac{7}{10}$ (when the numerator is equal, the fraction with the smaller denominator is greater)

Therefore, 7 is greater than 0.7

(iv)   1.37 or 1.49

$$1.37 = \frac{137}{100}$$

$$1.49 = \frac{149}{100}$$

$\Rightarrow \frac{149}{100} > \frac{137}{100}$ [when the denominator is equal (like fractions), the fraction with the greater numerator is greater]

Therefore, 1.49 is greater than 1.37

(v)   2.03 or 2.30

$$2.03 = \frac{203}{100}$$

$$2.30 = \frac{230}{100}$$

$\Rightarrow \frac{230}{100} > \frac{203}{100}$ [when the denominator is equal (like fractions), the fraction with the greater numerator is greater]

Therefore, 2.30 is greater than 2.03

(vi)   0.8 or 0.88

$$0.8 = \frac{80}{100}$$

$$0.88 = \frac{88}{100}$$

$\Rightarrow \frac{80}{100} > \frac{88}{100}$ [when the denominator is equal (like fractions), the fraction with the greater numerator is greater]

Therefore, 0.88 is greater than 0.8

2.   Express as rupees using decimals:

(i)   7 paise

(ii)   7 rupees 7 paise

(iii)   77 rupees 77 paise

(iv)   50 paise

(v)   235 paise

Solution:

(i)   7 paise

Rs. 1 = 100 paise

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

= Rs 0.07

(ii)   7 rupees 7 paise

Rs. 1 = 100 paise

7 rupees 7 paise $= 7 + \frac{7}{100}$

= 7 + 0.07

= Rs 7.07

(iii) 77 rupees 77 paise

Rs. 1 = 100 paise

77 rupees 77 paise $= 77 + \frac{77}{100}$

= 77 + 0.77

= Rs 77.77

(iv)   50 paise

Rs. 1 = 100 paise

50 paise $= \frac{50}{100}$

= Rs 0.50

(v)   235 paise

Rs. 1 = 100 paise

235 paise $= \frac{235}{100}$

= Rs 2.35

(i)   Express 5 cm in metre and kilometer

(ii)   Express 35 mm in cm, m and km

Solution:

3.   Express 5 cm in metre and kilometer

Solution:

100cm = 1m

$\therefore\ 5\text{cm} = \dfrac{5}{100}$

$= 0.05$ m

$100\text{cm} = 1\text{m}$

$1000\text{m} = 1\text{km}$

$\Rightarrow 100000\text{cm} = 1\text{km}$

$100000\text{cm} = 1$ km

$\therefore\ 5\text{cm} = \dfrac{5}{100000}$

$= 0.00005$ km

4.   Express 35 mm in cm, m and km

Solution:

$10\text{mm} = 1\text{cm}$

$\therefore\ 35\text{mm} = \dfrac{35}{10}$

$= 3.5$ cm

$10\text{mm} = 1\text{cm}$

$100\text{cm} = 1\text{m}$

$\Rightarrow 1000\text{mm} = 1\text{m}$

$\therefore\ 35\text{mm} = \dfrac{35}{1000}$

$= 0.035$ m

$10\text{mm} = 1\text{cm}$

$100\text{cm} = 1\text{m}$

$\Rightarrow\ 1000000\text{mm} = 1\text{km}$

$\therefore\ 35\text{mm} = \dfrac{35}{1000000}$

$= 0.000035$ km

5.   Express in kg:

(i)   200 g

(ii)   3470 g

(iii)   4 kg 8 g

Solution:

200 g

1000 g = 1kg

$200 \text{ g} = \dfrac{200}{1000}$

= 0.2Kg

3470 g

1000 g = 1kg

$3470\text{g} = \dfrac{3470}{1000}$

= 3.47 Kg

4 kg 8 g

1000 g = 1kg

$4 \text{ kg } 8 \text{ g} = 4 \text{ kg} + \dfrac{8}{1000}$

= 4 kg + 0.008

= 4.008 Kg

6.   Write the following decimal numbers in the expanded form:

(i)   20.03

(ii)   2.03

(iii)   200.03

(iv)   2.034

Solution:

$20.03 = (2 \times 10) + (0 \times 1) + \left(0 \times \dfrac{1}{10}\right) + \left(3 \times \dfrac{1}{100}\right)$

$2.03 = (2 \times 10) + \left(0 \times \dfrac{1}{10}\right) + \left(3 \times \dfrac{1}{100}\right)$

$200.03 = (2 \times 100) + (0 \times 10) + (0 \times 1) + \left(0 \times \dfrac{1}{10}\right) + \left(3 \times \dfrac{1}{100}\right)$

$2.034 = (2 \times 1) + \left(0 \times \dfrac{1}{10}\right) + \left(3 \times \dfrac{1}{100}\right) + \left(4 \times \dfrac{1}{1000}\right)$

7.   Write the place value of 2 in the following decimal numbers:

(i)   2.56

(ii)   21.37

(iii)   10.25

(iv)   9.42

(v)   63.352

Solution:

(i)   2.56

Place value of 2 is ones

(ii)   21.37

Place value of 2 is tens

(iii)   10.25

Place value of 2 is one tenths

(iv)   9.42

Place value of 2 is one hundredths

(v)   63.352

Place value of 2 is one thousandths

8.   Dinesh went from place A to place B and from there to place C. A is 7.5 km from B and B is 12.7 km from C. Ayub went from place A to place D and from there to place C. D is 9.3 km from A and C is 11.8 km from D. Who travelled more and by how much?
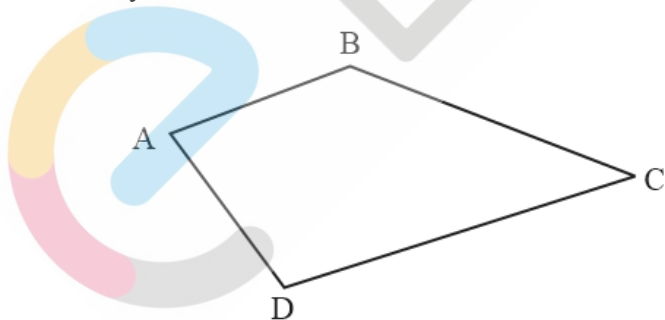
Solution:

Distance from A to B = 7.5 km

Distance from B to C = 12.7 km

Distance travelled by Dinesh = A to B + B to C

$= 7.5 + 12.7$

$= 20.2$ km

Distance from A to D $= 9.3$ km

Distance from D to C $= 11.8$ km

Distance travelled by Ayub $=$ A to D $+$ D to C

$= 9.3 + 11.8$

$= 21.1$ km

Difference between the distance travelled $= 21.1 - 20.2$

$= 0.9$ km

Therefore, Ayub travelled 0.9 kms more than Dinesh

9.   Shyama bought 5 kg 300 g apples and 3 kg 250 g mangoes. Sarala bought 4 kg 800 g oranges and 4 kg 150 g bananas. Who bought more fruits?

Solution:

Quantity of fruits bought by Shyama:

Apples $= 5.300$ Kg

Mangoes $= 3.250$ kg

Total fruits bought by Shyama $= 8.550$ kg

Quantity of fruits bought by Sarala:

Oranges $= 4.800$ Kg

Bananas $= 4.150$ kg

Total fruits bought by Shyama $= 8.950$ kg

Difference in the quantity $= 8.950 - 8.550$

$= 0.4$ kg

Therefore, Sarala has bought 0.4 kg or 400 g more fruits than Shyama

10.   How much less is 28 km than 42.6 km?

Solution:

42.6 km – 28 Km $= 14.6$ Km

Therefore, 28 km is less than 42.6 km by 14.6 km

Exercise: 2.6

1.   Find:

(i) 0.2×6

(ii) 8×4.6

(iii) 2.71×5

(iv) 20.1×4

(v) 0.05×7

(vi) 211.02×4

(vii) 2×0.86

Solution:

(i) $0.2 \times 6 = 1.2$

(ii) $8 \times 4.6 = 36.8$

(iii) $2.71 \times 5 = 13.55$

(iv) $20.1 \times 4 = 80.4$

(v) $0.05 \times 7 = 0.35$

(vi) $211.02 \times 4 = 844.08$

(vii) $2 \times 0.86 = 1.72$

Find the area of rectangle whose length is 5.7 cm and breadth is 3 cm.

Solution:

Length of the rectangle, $l = 5.7 cm$

Breadth of the rectangle, $b = 3 cm$

$\therefore$ Area of the rectangle $= l \times b$

$= 5.7 \times 3$

$= 17.1 cm^2$

2.   Find:

(i) 1.3×10

(ii) 36.8×10

(iii) 153.7×10

(iv) 168.07×10

(v) 31.1×100

(vi) 156.1×100

(vii) 3.62×100

(viii) 43.07×100

(ix) 0.5×10

(x) 0.08×10

(xi) 0.9×100

(xii) 0.03×1000

Solution:

(i) $1.3 \times 10 = 13$

(ii) $36.8 \times 10 = 368$

(iii) $153.7 \times 10 = 1537$

(iv) $168.07 \times 10 = 1680.7$

(v) $31.1 \times 100 = 311$

(vi) $156.1 \times 100 = 15610$

(vii) $3.62 \times 100 = 362$

(viii) $43.07 \times 100 = 4307$

(ix) $0.5 \times 10 = 5$

(x) $0.08 \times 10 = 0.8$

(xi) $0.9 \times 100 = 90$

(xii) $0.03 \times 1000 = 30$

3.   A two-wheeler covers a distance of 55.3 km in one litre of petrol. How much distance will it cover in 10 litres of petrol?

Solution:

Distance covered in one litre of petrol $= 55.3$ km

$\therefore$ Distance covered in 10 litres $= 55.3 \times 10$

$= 553$ km

4.   Find:

(i) 2.5×0.3

(ii) 0.1×51.7

(iii)   0.2 × 316.8

(iv)   1.3 × 3.1

(v)   0.5 × 0.05

(vi)   11.2 × 0.15

(vii)   1.07 × 0.02

(viii)   10.05 × 1.05

(ix)   101.01 × 0.01

(x)   100.01 × 1.1

Solution:

(i)   2.5 × 0.3 = 0.75

(ii)   0.1 × 51.7 = 5.17

(iii)   0.2 × 316.8 = 63.36

(iv)   1.3 × 3.1 = 4.03

(v)   0.5 × 0.05 = 0.025

(vi)   11.2 × 0.15 = 1.68

(vii)   1.07 × 0.02 = 0.0214

(viii)   10.05 × 1.05 = 10.5525

(ix)   101.01 × 0.01 = 1.0101

(x)   100.01 × 1.1 = 110.011

Exercise: 2.7

1.   Find:

(i)   0.4 ÷ 2

(ii)   0.35 ÷ 5

(iii)   2.48 ÷ 4

(iv)   65.4 ÷ 6

(v)   651.2 ÷ 4

(vi)   14.49 ÷ 7

(vii)   3.96 ÷ 4

(viii) $0.80 \div 5$

Solution:

(i) $0.4 \div 2 = \dfrac{4}{10} \div 2$

$\qquad = \dfrac{4}{10} \times \dfrac{1}{2}$

$\qquad = \dfrac{2}{10}$

$\qquad = 0.2$

(ii) $0.35 \div 5 = \dfrac{35}{100} \div 5$

$\qquad = \dfrac{35}{100} \times \dfrac{1}{5}$

$\qquad = \dfrac{7}{100}$

$\qquad = 0.07$

(iii) $2.48 \div 4 = \dfrac{248}{100} \div 4$

$\qquad = \dfrac{248}{100} \times \dfrac{1}{4}$

$\qquad = \dfrac{62}{100}$

$\qquad = 0.62$

(iii) $65.4 \div 6 = \dfrac{654}{10} \div 6$

$\qquad = \dfrac{654}{10} \times \dfrac{1}{6}$

$\qquad = \dfrac{109}{10}$

$\qquad = 10.9$

(iv) $651.2 \div 4 = \dfrac{6512}{10} \div 4$

$\qquad = \dfrac{6512}{10} \times \dfrac{1}{4}$

$\qquad = \dfrac{1628}{10}$

$\qquad = 162.8$

(v) $14.49 \div 7 = \dfrac{1449}{100} \div 7$

$= \dfrac{1449}{100} \times \dfrac{1}{7}$

$= \dfrac{207}{100}$

$= 2.07$

(vi) $3.96 \div 4 = \dfrac{396}{100} \div 4$

$= \dfrac{396}{100} \times \dfrac{1}{4}$

$= \dfrac{99}{100}$

$= 0.99$

(vii) $0.80 \div 5 = \dfrac{80}{100} \div 5$

$= \dfrac{80}{100} \times \dfrac{1}{5}$

$= \dfrac{16}{100}$

$= 0.16$

2.   Find:

(i) $4.8 \div 10$

(ii) $52.5 \div 10$

(iii) $0.7 \div 10$

(iv) $33.1 \div 10$

(v) $272.23 \div 10$

(vi) $0.56 \div 10$

(vii) $3.97 \div 10$

Solution:

(i) $4.8 \div 10 = 0.48$

(ii) $52.5 \div 10 = 5.25$

(iii) $0.7 \div 10 = 0.07$

(iv) $33.1 \div 10 = 3.31$

      (v) $272.23 \div 10 = 27.223$

      (vi) $0.56 \div 10 = 0.056$

      (vii) $3.97 \div 10 = 0.397$

3.   Find:

      (i) $2.7 \div 100$

      (ii) $0.3 \div 100$

      (iii) $0.78 \div 100$

      (iv) $432.6 \div 100$

      (v) $23.6 \div 100$

      (vi) $98.53 \div 100$

Solution:

      (i) $2.7 \div 100 = 0.027$

      (ii) $0.3 \div 100 = 0.003$

      (iii) $0.78 \div 100 = 0.0078$

      (iv) $432.6 \div 100 = 4.326$

      (v) $23.6 \div 100 = 0.236$

      (vi) $98.53 \div 100 = 0.9853$

4.   Find:

      (i) $7.9 \div 1000$

      (ii) $26.3 \div 1000$

      (iii) $38.53 \div 1000$

      (iv) $128.9 \div 1000$

      (v) $0.5 \div 1000$

Solution:

      (i) $7.9 \div 1000 = 0.0079$

      (ii) $26.3 \div 1000 = 0.0263$

      (iii) $38.53 \div 1000 = 0.03853$

      (iv) $128.9 \div 1000 = 0.1289$

      (v) $0.5 \div 1000 = 0.0005$

5.   Find:

(i) $7 \div 3.5$

(ii) $36 \div 0.2$

(iii) $3.25 \div 0.5$

(iv) $30.94 \div 0.7$

(v) $0.5 \div 0.25$

(vi) $7.75 \div 0.25$

(vii) $76.5 \div 0.15$

(viii) $37.8 \div 1.4$

(ix) $2.73 \div 1.3$

Solution:

(i) $7 \div 3.5 = 7 \div \frac{35}{10}$

$= 7 \times \frac{10}{35}$

$= 2$

(ii) $36 \div 0.2 = 36 \div \frac{2}{10}$

$= 36 \times \frac{10}{2}$

$= 180$

(iii) $3.25 \div 0.5 = \frac{325}{100} \div \frac{5}{10}$

$= \frac{325}{100} \times \frac{10}{5}$

$= \frac{65}{10}$

$= 6.5$

(iv) $30.94 \div 0.7 = \frac{3094}{100} \div \frac{7}{10}$

$= \frac{3094}{100} \times \frac{10}{7}$

$= \frac{442}{10}$

$= 44.2$

(v) $0.5 \div 0.25 = \dfrac{5}{10} \div \dfrac{25}{100}$

   $= \dfrac{5}{10} \times \dfrac{100}{25}$

   $= \dfrac{20}{10}$

   $= 2$

(vi) $7.75 \div 0.25 = \dfrac{775}{100} \div \dfrac{25}{100}$

   $= \dfrac{775}{100} \times \dfrac{100}{25}$

   $= \dfrac{775}{25}$

   $= 31$

(vii) $76.5 \div 0.15 = \dfrac{765}{10} \div \dfrac{15}{100}$

   $= \dfrac{765}{10} \times \dfrac{100}{15}$

   $= 255 \times 2$

   $= 510$

(viii) $37.8 \div 1.4 = \dfrac{378}{10} \div \dfrac{14}{10}$

   $= \dfrac{378}{10} \times \dfrac{10}{14}$

   $= \dfrac{378}{14}$

   $= 27$

(ix) $2.73 \div 1.3 = \dfrac{273}{100} \div \dfrac{13}{10}$

   $= \dfrac{273}{100} \times \dfrac{10}{13}$

   $= \dfrac{21}{10}$

   $= 2.1$

6.   A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it cover in one litre of petrol?

   Solution:

Distance covered by the vehicle $= 43.2$ km

Quantity of petrol used $= 2.4$ litres

Therefore, distance that can be covered in 1 litre $= \frac{43.2}{2.4} \times \frac{10}{10}$

$= \frac{432}{24}$

$= 18$ kms