Decimal Fraction

Exercise

Solution 1:

1. The cost of 2 kg Mung = Rs.(2 x 60.50)

60.50 (2 decimal places)
x 2 (0 decimal places)
121.00 (2 + 0 = 2 decimal places)

∴ The cost of 2 kg Mung = Rs.121

2. The cost of 9.250 kg Wheat = Rs.(9.250 × 15)

9.250 (3 decimal places)
x 15 (0 decimal places)
92500
+ 46250
138.750 (3 + 0 = 3 decimal places)

∴ The cost of 9.250 kg Wheat = Rs. 138.75

3. The cost of 2.500 kg Sugar =Rs.(2.500 × 30.50)

30.5 (1 decimal place)
x 2.5 (1 decimal place)
6100
+ 1525
76.25 (1 + 1 = 2 decimal places)

∴ The cost of 2.500 kg Sugar =Rs.76.25

4. The cost of 5 kg Rice = Rs.(5 × 20.50)

$$\begin{array}{r} 20.50 \quad \text{(2 decimal place)} \\ \times \quad 5 \quad \text{(0 decimal places)} \\ \hline 102.50 \quad \text{(2 + 0 = 1 decimal place)} \end{array}$$

∴ The cost of 5 kg Rice =Rs.102.50

5. Ths cost of 1.500 kg Tuverdal = Rs.(72 x 1500)

$$\begin{array}{r} 1.5 \quad \text{(1 decimal place)} \\ \times \ 72 \quad \text{(0 decimal places)} \\ \hline 108.0 \quad \text{(1 + 0 = 1 decimal place)} \end{array}$$

∴ The cost of 1.500 kg Tuverdal =Rs.108

6. The total cost of Mung, Wheat and Sugar if they are bought it as above is Rs.121 +Rs.138.75 +Rs.76.25 =Rs.336

7. The total weight of Mung, Wheat and Sugar = 2 kg + 9.250 kg + 2.500 kg= 13.750 kg

Solution 2(1):

Given, total weight of chili powder = 12 kg
Number of packets each of 250 gm of chili powder = 35
Weight of one packet of chili powder = 250 gm
First, convert 250 gm into kg ⇒250 gm = (250 ÷ 1000) kg = 0.250 kg
Weight of one packet = 0.250 kg.
Weight of 35 such packets = (0.250 × 35)kg

$$\begin{array}{r} 0.250 \quad \text{(3 decimal places)} \\ \times \quad 35 \quad \text{(0 decimal places)} \\ \hline 7500 \\ + \ 1250 \\ \hline 8.750 \quad \text{(3 + 0 = 3 decimal place)} \end{array}$$

∴ Weight of 35 such packets = 8.750 kg
Weight of remaining chili powder = (12−8.750)kg = 3.250 kg
∴ Theweight of remaining chili powder is 3250 kg.

Solution 2(2):

Given, cost of 4 oranges = Rs.15
Number of oranges bought by Wahab = 20
∴ Cost of one orange = 15 ÷ 4
Cost of 20 oranges = Cost of one orange $\times 20 = (15 \div 4) \times 20 = \frac{15}{4} \times \frac{20}{1} = 75$
∴ Cost of 20 oranges = Rs. 75
Thus, Wahab paid Rs.75 for 20 oranges.

Solution 2(3):

1. $3.6 \div 0.6 = \frac{36}{10} \div \frac{6}{10} = \frac{36}{10} \times \frac{10}{6} = 6$

2. $1.5 \div 0.05 = \frac{15}{10} \div \frac{5}{100} = \frac{15}{10} \times \frac{100}{5} = \frac{5 \times 3}{10} \times \frac{10 \times 10}{5} = 30$

3. $0.24 \div 0.6 = \frac{24}{100} \div \frac{6}{10} = \frac{24}{100} \times \frac{10}{6} = \frac{6 \times 4}{10 \times 10} \times \frac{10}{6} = \frac{4}{10} = 0.4$

Practice – 1

Solution 1(1):

2. 25 (2 decimal places)
× 4 (0 decimal place)
9.00 (2 + 0 = 2 decimal places)
∴ 2.25 × 4 = 9.00 = 9

Solution 1(2):

0. 035 (3 decimal places)
× 12 (0 decimal place)
0 350
+ 070
0.420 (3 decimal places)
∴ 0.035 × 12 = 0.42
∴ 0.035 × 12 = 0.42

Solution 1(3):

4.203 (3 decimal places)
× 15 (0 decimal place)
42030
21015
63.045 (3 decimal places)
∴ 4.203 × 15 = 63.045

Solution 1(4):

Any number multiplied by zero gives the product zero.
∴ 7.604 × 0 = 0

Solution 1(5):

3.5 (1 decimal place)
× 2.4 (1 decimal place)
1700
140
8.40 (2 decimal places)
∴ 3.5 × 2.4 = 8.40

Solution 1(6):

6.54 (2 decimal places)
× 0.5 (1 decimal place)
3.270 (3 decimal places)
∴ 6.54 × 0.5 = 3.270 = 3.27

Solution 1(7):

3.24 (2 decimal places)
× 12.3 (1 decimal place)
32400
+6480
+ 972
39.852 (3 decimal places)
∴ 3.24 × 12.3 = 39.852

Solution 1(8):

24.7 (1 decimal place)
× 5.9 (1 decimal place)
12350
+ 2223
145.73 (2 decimal places)
∴ 24.7 × 5.9 = 145.73

Solution 2:

45 × 2.2 900 + 90 99.0	4.5 × 2.2 900 + 90 9.90
✓	✓

0.24 × 0.2 0.048	0.24 × 0.2 0.048
✓	✓

Practice – 2

Solution 1:

1. 3.4 × 10 = 34
When a decimal fraction is multiplied by 10, the decimal point moves one place towards the right.
∴3.4 × 10 = 34
2. 0.5 × 10 = 5
When a decimal fraction is multiplied by 10, the decimal point moves one place towards the right.
∴0.5 × 10 = 5
3. 0.46 ×100 = 46
When a decimal fraction is multiplied by 100, the decimal point moves two places towards

the right.

∴ 0.46 ×100 = 46

4. 2.97 × 10 = 29.7

When a decimal fraction is multiplied by 10, the decimal point moves two places towards the right.

∴2.97 × 10 = 29.7

5. 0.25 × 1000 = 250

When a decimal fraction is multiplied by 1000, the decimal point moves three places towards the right.

∴0.25 × 1000 = 250

6. 3.4 × 1000 = 3400

When a decimal fraction is multiplied by 1000, the decimal point moves three places towards the right.

∴3.4 × 1000 = 3400

7. 2.1 × 100 = 210

When a decimal fraction is multiplied by 100, the decimal point moves two places towards the right.

∴ 2.1 × 100 = 210

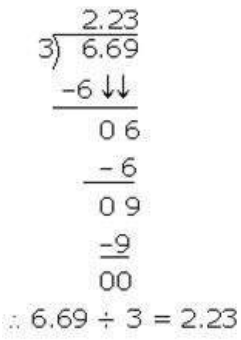
8. 2.24 × 100 = 224

When a decimal fraction is multiplied by 100, the decimal point moves two places towards the right.

∴ 2.24 × 100 = 224

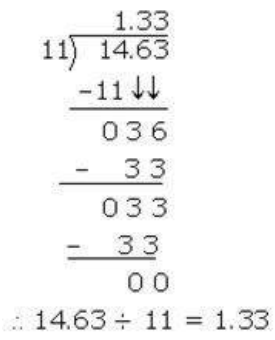
Practice – 3

Solution 1(1):



∴ 6.69 ÷ 3 = 2.23

Solution 1(2):



∴ 14.63 ÷ 11 = 1.33

Solution 1(3):

$$
\begin{array}{r}
1.16 \\
12\overline{)\ 13.92} \\
-12\downarrow\downarrow \\
\hline
0\,1\,9 \\
-\ 1\,2 \\
\hline
0\,0\,72 \\
-\quad 72 \\
\hline
0\,0
\end{array}
$$

$\therefore 13.92 \div 12 = 1.16$

Solution 1(4):

$$
\begin{array}{r}
3.45 \\
14\overline{)\ 48.30} \\
-42\downarrow\downarrow \\
\hline
063 \\
-\ 56 \\
\hline
0070 \\
-\quad 70 \\
\hline
00
\end{array}
$$

$\therefore 48.3 \div 14 = 3.45$

Solution 1(5):

$$
\begin{array}{r}
0.123 \\
18\overline{)\ 2.214} \\
-18\downarrow\downarrow \\
\hline
0\,41 \\
-\ 36 \\
\hline
0054 \\
-\quad 54 \\
\hline
00
\end{array}
$$

$\therefore 2.214 \div 18 = 0.123$

Solution 1(6):

$$
\begin{array}{r}
3.043 \\
15\overline{)\ 45.645} \\
-45\downarrow\downarrow \\
\hline
0\,064 \\
-\quad 60 \\
\hline
00045 \\
-\quad\ 45 \\
\hline
00
\end{array}
$$

$\therefore 45.645 \div 15 = 3.043$

Solution 1(7):

```
      0.468
19) 8.845
   -76 ↓↓
    1 29
   - 114
     0152
   -  152
      000
```

∴ 8.892 ÷ 19 = 0.468

Solution 1(8):

```
      3.03
13) 39.39
   -39 ↓↓
    0 039
   -  39
      00
```

∴ 39.39 ÷ 13 = 3.03

Practice – 4

Solution 1:

Note :

1. When a decimal fraction is divided by 10, the decimal point moves one place towards the left.
2. When a decimal fraction is divided by 100, the decimal point moves two places towards the left.
3. When a decimal fraction is divided by 1000, the decimal point moves three places towards the left.

1. 1.4 ÷ 10 = 0.14
2. 24.6 ÷ 100 = 0.246
3. 23.2 ÷ 100 = 0.232
4. 35.7 ÷ 1000 = 0.0357
5. 324.4 ÷ 100 = 3.244
6. 620.5 ÷ 1000 = 0.6205
7. 0.2 ÷ 10 = 0.02
8. 2 ÷ 100 = 0.02

Practice – 5

Solution 1:

Given :
Cost of one pen is Rs.6.25
∴ Cost of 14 pens = Rs.(6.25 × 14)

```
      6.25  (2 decimal places)
   x    14  (0 decimal places)
   ------
     6250
  + 2500
   ------
    87.50  (2 + 0 = 2 decimal places)
```

Rs.(6.25 × 14) = Rs.87.50
Cost of 14 pens = Rs.87.50

Solution 2:

Given :
Total amount donated = Rs.1001
Number of students = 50
∴ Amount each student gets = Rs.(1001 ÷ 50)

```
      20.02
   ---------
50)1001.00
   100 ↓↓↓
   ------
   000100
     - 100
     -----
       000
```

Amount each student gets = Rs. 20.02

Solution 3:

Given:
Initial stock of potatoes = 12.500 kg
More potatoes bought = 15 kg
Quantity of Potatoes sold = 17.250 kg
Total stock of potatoes = (12.500 + 15) kg
12.500 kg
+ 15.000 kg
27.500 kg
∴Total stock of potatoes = 27.500 kg
Potatoes left with shopkeeper = (total stock – quantity sold) kg
Potatoes left with shopkeeper = (27.500 – 17.250) kg
27.500 kg
– 17.250 kg
10.250 kg
∴ Potatoes left with shopkeeper = 10.250 kg

Solution 4:

Given :
Total length of cloth = 100 metres
Length of each of 12 pieces sold out is 2 m 25 cm.

$2\text{ m }25\text{ cm} = \left(2 + \frac{25}{100}\right)\text{ m} = (2 + 0.25)\text{ m} = 2.25\text{ m}$

∴ Length of each of 12 pieces sold out = 2.25 m
∴ Total length of the cloth sold out = (12 × 2.25) m

2.25 (2 decimal places)
x 12 (0 decimal places)
2250
+ 450
27.00 (2 + 0 = 2 decimal places)

Total length of the cloth sold out = 27 m
The remaining cloth = (100 – 27) m

Solution 5:

Given :
Cost of one tooth brush = Rs.12.50
Number of tooth brushes = 5
Cost of one tooth paste = Rs.34.50
Amount required to buy 5 tooth brushes = Rs. (12.50 × 5)

12.50 (2 decimal places)
x 5 (0 decimal places)
62.50 (2 + 0 = 2 decimal places)

Amount required to buy 5 tooth brushes = Rs. 62.50
Amount required to buy 1tooth paste = Rs.34.50
Total amount required to buy 5 tooth brushes and 1 tooth paste = Rs. (62.50 + 34.50)

62.50 Rs.
+ 34.50 Rs.
97.00 Rs.

Total Amount required for Jigna to buy 5 tooth brushes and 1tooth paste = Rs.97