Chapter 3 : Decimals

ANSWER KEYS

EXERCISE 3.1

1. (i) $0.8 = \dfrac{\cancel{8}^{4}}{\cancel{10}_{5}} = \dfrac{4}{5}$

(ii) $2.25 = \dfrac{\cancel{225}^{9}}{\cancel{100}_{4}} = \dfrac{9}{4}$

(iii) $17.5 = \dfrac{\cancel{175}^{35}}{\cancel{10}_{2}} = \dfrac{35}{2}$

(iv) $0.0375 = \dfrac{\cancel{375}^{15\;3}}{\cancel{10000}_{400\;80}} = \dfrac{3}{80}$

(v) $0.524 = \dfrac{524}{1000} = \dfrac{131}{250}$

2. (i) $\dfrac{29}{10} = 2.9$ (Inserting the decimal point one place to the left)

(ii) $15\dfrac{1}{8} = 15 + \dfrac{1}{8} = 15 + \dfrac{1\times125}{8\times125}$

$= 15 + \dfrac{125}{1000} = 15 + 0.125$

$= 15.125$ (Inserting the decimal point three places to the left)

(iii) $234\dfrac{1}{25} = 234 + \dfrac{1}{25}$

$= 234 + \dfrac{1\times4}{25\times4}$

$= 234 + \dfrac{4}{100}$

$= 234 + 0.04$ (Inserting the decimal
$= 234.04$ point two places to the left)

(iv) $18 + \dfrac{3}{10} + \dfrac{4}{1000}$

$= 18 + 0.3 + 0.004 = 18.304$

3. (i) $4.56 + 0.8 + 32.5$

Converting given decimals into like decimals, we have,

$4.56 + 0.80 + 32.50 = 37.86$

```
   4.56
   0.80
+ 32.50
-------
  37.86
```

(ii) 0.05 and 0.004

Converting given decimals into like decimals, we have,

$0.050 + 0.004 = 0.054$

```
  0.050
+ 0.004
-------
  0.054
```

(iii) 13.225 and 9.25

Converting given decimals into like decimals, we have,

$13.225 + 9.250 = 22.475$

```
  13.225
 + 9.250
-------
  22.475
```

(iv) 14.44, 6.234 and 18

Converting given decimals into like decimals, we have,

$14.440 + 6.234 + 18.000 = 38.674$

```
  14.440
   6.234
+ 18.000
-------
  38.674
```

4. (i) $8.752 - 4.9$

Converting given decimals into like decimals, we have,

$8.752 - 4.900 = 3.852$

```
  8.752
- 4.900
-------
  3.852
```

(ii) $23.8 - 0.25$ (iii) $100 - 36.48$ (iv) $8.5 - 2.785$

```
  23.80        100.00        8.500
-  0.25       - 36.48       - 2.785
------        -------       -------
  23.55         63.52        5.715
```

5. (i) $68.5 - 21.45 + 26.2 - 13.46$

Converting given decimals into like decimals, we have,

$68.50 - 21.45 + 26.20 - 13.46$

$= 47.05 + 26.20 - 13.46$

$= 73.25 - 13.46 = 59.79$

(ii) $6.6 + 23.8 - 0.99$

Converting given decimals into like decimals, we have,

$6.60 + 23.80 - 0.99$

$= 30.40 - 0.99 = 29.41$

(iii) $34.26 - 15.029 + 3.04$

Converting given decimals into like decimals, we have,

$34.260 - 15.029 + 3.040$

$= 19.231 + 3.040 = 22.271$

(iv) 6 – 2.5307 + 3.1

Converting given decimals into like decimals, we have,

6.0000 – 2.5307 + 3.1000

= 3.4693 + 3.1000 = 6.5693

6. (i) 4.6, 0.22, 24.13, 20.05

Converting the given decimals into like decimals,

4.60, 0.22, 24.13, 20.05

Clearly,

0.22 < 4.60 < 20.05 < 24.13

Hence, the given decimals in ascending order are

0.22, 4.6, 20.05, 24.13

(ii) 0.52, 36.28, 2.05, 3.5

Converting the given decimals into like decimals,

0.52, 36.28, 2.05, 3.50

Clearly,

0.52 < 2.05 < 3.50 < 36.28

Hence, the given decimals in ascending order are

0.52, 2.05, 3.5, 36.28

EXERCISE 3.2

1. (i) $2.6 \times 10 = 26$ ($\because$ decimal point shifts one place to the right)

(ii) $34.7 \times 10 = 347$ ($\because$ decimal point shifts one place to the right)

(iii) $128.6 \times 10 = 1286$ ($\because$ decimal point shifts one place to the right)

(iv) $234.05 \times 10 = 2340.5$ ($\because$ decimal point shifts one place to the right)

(v) $21.1 \times 10 = 211$ ($\because$ decimal point shifts one place to the right)

(vi) $352.4 \times 100 = 35240$ ($\because$ decimal point shifts two places to the right)

(vii) $3.57 \times 100 = 357$ ($\because$ decimal point shifts two places to the right)

(viii) $48.06 \times 100 = 4806$ ($\because$ decimal point shifts two places to the right)

(ix) $0.7 \times 10 = 7$ ($\because$ decimal point shifts one place to the right)

(x) $0.08 \times 100 = 8$ ($\because$ decimal point shifts two places to the right)

(xi) $0.09 \times 1000 = 90$ ($\because$ decimal point shifts three places to the right)

(xii) $0.06 \times 1000 = 60$ ($\because$ decimal point shifts three places to the right)

2. (i) 0.6×6

$6 \times 6 = 36$ (First multiplying without decimal point)

$\therefore$ $0.6 \times 6 = 3.6$ (Put the decimal point after one digit)

(ii) 6.23×5

$623 \times 5 = 3115$ (First multiplying without decimal point)

$\therefore$ $6.23 \times 5 = 31.15$ (Put the decimal point after two digits)

(iii) 9×2.4

$9 \times 24 = 216$ (First multiplying without decimal point)

$\therefore$ $9 \times 2.4 = 21.6$ (Put the decimal point after one digit)

(iv) 25.2×7

$252 \times 7 = 1764$ (First multiplying without decimal point)

$\therefore$ $25.2 \times 7 = 176.4$ (Put the decimal point after one digit)

(v) 0.08×5

$8 \times 5 = 40$ (First multiplying without decimal point)

$0.08 \times 5 = 0.40$ (Put decimal point after two digits)

$\therefore$ $0.08 \times 5 = 0.4$

(vi) 351.06×4

$35106 \times 4 = 140424$ (First multiplying without decimal point)

$\therefore$ $351.06 \times 4 = 1404.24$ (Put decimal point after two digits)

(vii) 3×0.55

$3 \times 55 = 165$ (First multiplying without decimal point)

$\therefore$ $3 \times 0.55 = 1.65$ (Put decimal point after two digits)

3. (i) 6.2×0.2

First, we multiply two decimals without decimal point.

$62 \times 2 = 124$

Now,

6.2	$\times$	0.2	=	1.24
(1 decimal place)		(1 decimal place)		(1 + 1 = 2 decimal places)

Hence, $6.2 \times 0.2 = 1.24$

(ii) 21.7×0.1

First, we multiply without decimal point.

$217 \times 1 = 217$

Now,

21.7	$\times$	0.1	=	2.17
(1 decimal place)		(1 decimal place)		(1 + 1 = 2 decimal places)

Hence, $21.7 \times 0.1 = 2.17$

(iii) 0.4×302.5

First, we multiply without decimal point

$4 \times 3025 = 12100$

Now,

0.4	×	302.5	=	121.00
(1 decimal place)		(1 decimal place)		(1 + 1 = 2 decimal places)

Hence, 0.4 × 302.5 = 121

(*iv*) 0.3 × 0.03

First, we multiply without decimal point.

$$3 × 3 = 9$$

Now,

0.3	×	0.03	=	0.009
(1 decimal place)		(2 decimal places)		(1 + 2 = 3 decimal places)

∴ 0.3 × 0.03 = 0.009

(*v*) 0.23 × 19.4

First, we multiply without decimal point.

$$23 × 194 = 4462$$

Now,

0.23	×	19.4	=	4.462
(2 decimal places)		(1 decimal place)		(2 + 1 = 3 decimal places)

∴ 0.23 × 19.4 = 4.462

(*vi*) 20.05 × 2.05

First, we multiply without decimal point.

$$2005 × 205 = 411025$$

Now,

20.05	×	2.05	=	41.1025
(2 decimal places)		(2 decimal places)		(2 + 2 = 4 decimal places)

∴ 20.05 × 2.05 = 41.1025

(*vii*) 14.3 × 0.12

First, we multiply without decimal point.

$$143 × 12 = 1716$$

Now,

14.3	×	0.12	=	1.716
(1 decimal places)		(2 decimal places)		(1 + 2 = 3 decimal places)

∴ 14.3 × 0.12 = 1.716

(*viii*) 1.05 × 0.03

First, we multiply without decimal point.

$$105 × 3 = 315$$

Now,

1.05	×	0.03	=	0.0315
(2 decimal places)		(2 decimal places)		(2 + 2 = 4 decimal places)

∴ 1.05 × 0.03 = 0.0315

(*ix*) 30.02 × 2.02

First, we multiply without decimal points.

$$3002 × 202 = 606404$$

Now,

30.02	×	2.02	=	60.6404
(2 decimal places)		(2 decimal places)		(2 + 2 = 4 decimal places)

∴ 30.02 × 2.02 = 60.6404

(*x*) 101.01 × 0.01

First, we multiply without decimal points.

$$10101 × 1 = 10101$$

Now,

101.01	×	0.01	=	1.0101
(2 decimal places)		(2 decimal places)		(2 + 2 = 4 decimal places)

∴ 101.01 × 0.01 = 1.0101

(*xi*) 200.02 × 2.2

First, we multiply without decimal point.

$$20002 × 22 = 440044$$

Now,

200.02	×	2.2	=	440.044
(2 decimal places)		(1 decimal place)		(2 + 1 = 3 decimal places)

∴ 200.02 × 2.2 = 440.044

4. Side of the square field = 5.8 cm

∵ Area of square field = Side × Side

= (5.8 × 5.8) cm²

= 33.64 cm²

∴ Area of a square field is 33.64 cm².

5. The cost of 1 kg of sugar = ₹ 25.30

∴ The cost of 13.5 kg of sugar = ₹ (25.30 × 13.5)

= ₹ 341.55

Hence, the cost of 13.5 kg of sugar is ₹ 341.55.

6. The cost of 1 metre of cloth = ₹ 158.50

∴ The cost of 4.5 metre of cloth = ₹ (158.50 × 4.5)

= ₹ 713.25

Hence, the cost of 4.5 m of cloth is ₹ 713.25.

7. The cost of a book = ₹ 29.75

∴ The cost of 32 books = ₹ (29.75 × 32)

= ₹ 952

Hence, the cost of 32 books is ₹ 952.

8. Length of a rectangle = 18.60 m,

Breadth of a rectangle = 7.05 m

Area of rectangle = length × breadth

= (18.60 × 7.05) sq. m

= 131.13 sq. m

∴ Area of rectangle = 131.13 sq. m

9. (*i*) 1.2 × 1.2 × 0.012 = 1.44 × 0.012

= 0.01728

(*ii*) 3.2 × 1.5 × 2.5 = 4.80 × 2.5

= 12.000 = 12

(*iii*) 33.3 × 3.3 × 0.33 = 109.89 × 0.33

$\qquad\qquad\qquad\quad$ = 36.2637

(*iv*) 0.6 × 0.02 × 0.003 = 0.012 × 0.003

$\qquad\qquad\qquad\qquad$ = 0.000036.

EXERCISE 3.3

1. (*i*) 2.5 by 10

$$2.5 \div 10 = \frac{25}{10} \times \frac{1}{10} = \frac{25}{100} = 0.25$$

(*ii*) 2.5 by 100

$$2.5 \div 100 = \frac{25}{10} \times \frac{1}{100} = \frac{25}{1000} = 0.025$$

(*iii*) 2.5 by 1000

$$2.5 \div 1000 = \frac{25}{10} \times \frac{1}{1000} = \frac{25}{10000} = 0.0025$$

(*iv*) 55.6 by 10

$$55.6 \div 10 = \frac{556}{10} \times \frac{1}{10} = \frac{556}{100} = 5.56$$

(*v*) 5.56 by 100

$$5.56 \div 100 = \frac{556}{100} \times \frac{1}{100} = \frac{556}{10000} = 0.0556$$

(*vi*) 3.69 by 10

$$3.69 \div 10 = \frac{369}{100} \times \frac{1}{10} = \frac{369}{1000} = 0.369$$

(*vii*) 0.56 by 10

$$0.56 \div 10 = \frac{56}{100} \times \frac{1}{10} = \frac{56}{1000} = 0.056$$

(*viii*) 3.26 by 10

$$3.26 \div 10 = \frac{326}{100} \times \frac{1}{10} = \frac{326}{1000} = 0.326$$

(*ix*) 3.79 by 100

$$3.79 \div 100 = \frac{379}{100} \times \frac{1}{100} = \frac{379}{10000} = 0.0379$$

(*x*) 233.7 by 100

$$233.7 \div 100 = \frac{2337}{10} \times \frac{1}{100} = \frac{2337}{1000} = 2.337$$

2. (*i*) 25.5 by 0.5

$$\frac{25.5}{0.5} = \frac{25.5 \times 10}{0.5 \times 10} = \frac{255}{5}$$

```
  5) 255 (51
    − 25
    ─────
      05
     − 5
    ─────
      0
```

$$\therefore \quad \frac{25.5}{0.5} = 51$$

(*ii*) 22.5 by 2.5

$$\frac{22.5}{2.5} = \frac{22.5 \times 10}{2.5 \times 10} = \frac{225}{25}$$

```
  25) 225 (9
     − 225
    ──────
       0
```

$$\therefore \quad \frac{22.5}{2.5} = 9$$

(*iii*) 20.4 by 6

```
        3.4
  6) 20.4 (
    − 18
    ──────
      24
    − 24
    ──────
      0
```

$$\therefore \quad \frac{20.4}{6} = 3.4$$

(*iv*) 15.2 by 0.8

$$\frac{15.2}{0.8} = \frac{15.2 \times 10}{0.8 \times 10} = \frac{152}{8}$$

```
        19
  8) 152 (
    − 8
    ──────
     72
    − 72
    ──────
      0
```

$$\therefore \quad \frac{15.2}{0.8} = 19$$

(*v*) 27 by 0.03

$$\frac{27}{0.03} = \frac{27 \times 100}{0.03 \times 100} = \frac{2700}{3} = 900$$

(*vi*) 12.5 by 2.5

$$\frac{12.5}{2.5} = \frac{12.5 \times 10}{2.5 \times 10} = \frac{125}{25}$$

```
  25) 125 (5
     − 125
    ──────
       0
```

$$\therefore \quad \frac{12.5}{2.5} = 5$$

(*vii*) 89.1 by 3.3

$$\frac{89.1}{3.3} = \frac{89.1 \times 10}{3.3 \times 10} = \frac{891}{33}$$

```
  33) 891 (27
     − 66
    ──────
      231
    − 231
    ──────
       0
```

$$\therefore \quad \frac{89.1}{3.3} = 27$$

(viii) 2.73 by 1.3

$$\frac{2.73}{1.3} = \frac{2.73 \times 10}{1.3 \times 10} = \frac{27.3}{13}$$

```
13)27.3(2.1
  -26
   ‾‾‾
    13
   -13
   ‾‾‾
     0
```

$$\therefore \quad \frac{2.73}{1.3} = 2.1$$

(ix) 0.5 by 0.05

$$\frac{0.5}{0.05} = \frac{0.5 \times 100}{0.05 \times 100} = \frac{50}{5} = 10$$

3. *(i)* 12.98 by 4

```
4)12.98(3.245
 -12
 ‾‾‾
   9
  -8
  ‾‾
   18
  -16
  ‾‾‾
    20
   -20
   ‾‾‾
     0
```

$$\therefore \quad \frac{12.98}{4} = 3.245$$

(ii) 36 by 0.4

$$\frac{36}{0.4} = \frac{36 \times 10}{0.4 \times 10} = \frac{360}{4}$$
$$= 90$$

$$\therefore \quad \frac{36}{0.4} = 90$$

(iii) 30.94 by 7

```
    4.42
7)30.94(
 -28
 ‾‾‾
  29
 -28
 ‾‾‾
   14
  -14
  ‾‾‾
    0
```

$$\therefore \quad \frac{30.94}{7} = 4.42$$

(iv) 7.75 by 25

```
     0.31
25)7.75(
  -0
  ‾‾
   77
  -75
  ‾‾‾
    25
   -25
   ‾‾‾
     0
```

$$\therefore \quad \frac{7.75}{25} = 0.31$$

(v) 11.2 by 16

```
    0.7
16)11.2(
  -0
  ‾‾
  112
 -112
 ‾‾‾‾
    0
```

$$\therefore \quad \frac{11.2}{16} = 0.7$$

(vi) 1.07 by 2

```
    0.535
2)1.07(
 -0
 ‾‾
  10
 -10
 ‾‾‾
   07
  -06
  ‾‾‾
   10
  -10
  ‾‾‾
    0
```

$$\therefore \quad \frac{1.07}{2} = 0.535$$

(vii) 24.66 by 12

```
12)24.66(2.055
  -24
  ‾‾‾
   66
  -60
  ‾‾‾
    60
   -60
   ‾‾‾
     0
```

$$\therefore \quad \frac{24.66}{12} = 2.055$$

(vii) 6.2 by 248

```
12)6.2(2.025
  -0
  ‾‾
  620
 -496
 ‾‾‾‾
  1240
 -1240
 ‾‾‾‾‾
    0
```

$$\therefore \quad \frac{6.2}{248} = 0.025$$

4. *(i)* 12 ÷ 8

```
8)12(1.5
 -8
 ‾‾
  40
 -40
 ‾‾‾
   0
```

$$\therefore \quad 12 \div 8 = 1.5$$

(ii) 24 ÷ 25

```
25)24(0.96
  -0
  ‾‾
  240
 -225
 ‾‾‾‾
  150
 -150
 ‾‾‾‾
    0
```

$$\therefore \quad 24 \div 25 = 0.96$$

(iii) 135 ÷ 2

```
2)135(67.5
 -12
 ‾‾‾
  15
 -14
 ‾‾‾
   10
  -10
  ‾‾‾
    0
```

$$\therefore \quad 135 \div 2 = 67.5$$

(iv) 796 ÷ 3184

```
3184)796(0.25
    -0
    ‾‾
   7960
  -6368
  ‾‾‾‾‾
  15920
 -15920
 ‾‾‾‾‾‾
     0
```

$$\therefore \quad 796 \div 3184 = 0.25$$

(v) 3 ÷ 8

```
8)3(0.375
 -0
 ‾‾
 30
-24
‾‾‾
  60
 -56
 ‾‾‾
   40
  -40
  ‾‾‾
    0
```

$$\therefore \quad 3 \div 8 = 0.375$$

(vi) 6 ÷ 125

```
125)6(0.048
  -0
  ‾‾
  600
 -500
 ‾‾‾‾
 1000
-1000
‾‾‾‾‾
   0
```

$$\therefore \quad 6 \div 125 = 0.048$$

(vii) 17 ÷ 40

```
40)17(0.425
  -0
  ‾‾
  170
 -160
 ‾‾‾‾
  100
  -80
  ‾‾‾
  200
 -200
 ‾‾‾‾
   0
```

$$\therefore \quad 17 \div 40 = 0.425$$

(viii) 3 ÷ 25

```
25)3(0.12
  -0
  ‾‾
  30
 -25
 ‾‾‾
  50
 -50
 ‾‾‾
   0
```

$$\therefore \quad 3 \div 25 = 0.12$$

(ix) $13 \div 125$

$$
\begin{array}{r}
125 \overline{) 13} \ (0.104 \\
-0 \\
\hline
130 \\
-125 \\
\hline
500 \\
-500 \\
\hline
0
\end{array}
$$

$\therefore \quad 13 \div 125 = 0.104$

5. The cost of 15 notebooks = ₹ 144

$\therefore \quad$ The cost of 1 notebook = ₹ $\left(\dfrac{144}{15}\right)$

$= ₹ 9.60$

Hence, the cost of 1 notebook is ₹ 9.60.

6. Total weight of bags of rice = 650.16 kg

Weight of 1 rice bag = 10.32 kg

Therefore,

$$\text{Number of rice bags} = \frac{650.16 \text{ kg}}{10.32 \text{ kg}} = \frac{650.16}{10.32}$$

$$= \frac{650.16 \times 100}{10.32 \times 100}$$

$$= \frac{65016}{1032}$$

$$
\begin{array}{r}
63 \\
1032 \overline{) 65016} \ (\\
-6192 \\
\hline
3096 \\
-3096 \\
\hline
0
\end{array}
$$

$\therefore \quad$ Number of rice bags = 63.

7. One decimals × other decimals

= product of two decimals.

$\Rightarrow \quad$ Other decimals = $\dfrac{32.396}{5.2}$

$$= \frac{32.396 \times 10}{5.2 \times 10} = \frac{323.96}{52}$$

$$
\begin{array}{r}
6.23 \\
52 \overline{) 323.96} \ (\\
-312 \\
\hline
119 \\
-104 \\
\hline
156 \\
-156 \\
\hline
0
\end{array}
$$

$\therefore \quad$ Other decimals = 6.23.

8. The cost of one dozen (12) apples = ₹ 256.20

$(\therefore \quad 1 \text{ dozen} = 12)$

$\therefore \quad$ The cost of 1 apple = ₹ $\left(\dfrac{256.20}{12}\right)$ = ₹ 21.35

Hence, the cost of one apple is ₹ 21.35.

9. The cost of 26 toys = ₹ 1107.60

$\therefore \quad$ The cost of 1 toy = ₹ $\left(\dfrac{1107.60}{26}\right)$

$= ₹ 42.6$

Hence, the cost of 1 toys is ₹ 42.60.

10. The cost of 10.85 m of ribben = ₹ 238.70

$\therefore \quad$ The cost of 1 m of ribben = ₹ $\left(\dfrac{238.70}{10.85}\right)$

$$= ₹ \left(\frac{238.70 \times 100}{10.85 \times 100}\right)$$

$$= ₹ \left(\frac{23870}{1085}\right)$$

$$
\begin{array}{r}
22 \\
1085 \overline{) 23870} \ (\\
-2170 \\
\hline
2170 \\
-2170 \\
\hline
0
\end{array}
$$

Hence, the cost of 1 m ribben is ₹ 22.

MULTIPLE CHOICE QUESTIONS

1. We have,

Dividend = Divisor × Quotient + Remainder

$= 0.48 \times 5 + 0$

$= 2.40$

Hence, option (*c*) is correct.

2. $\dfrac{1}{5} = \dfrac{1 \times 2}{5 \times 2} = \dfrac{2}{10} = 0.2$

Hence, option (*d*) is correct.

3. $0.60 = \dfrac{60}{100} = \dfrac{6}{10}$

Hence, option (*a*) is correct.

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

Hence, option (*c*) is correct.

5. $4 + \dfrac{5}{10} + \dfrac{7}{100} = 4 + 0.5 + 0.07$

$= 4.57$

Hence, option (*d*) is correct.

6. $0.004 = \dfrac{4}{1000} = \dfrac{1}{250}$

Hence, option (b) is correct.

7. $0.24 = \dfrac{24}{100} = \dfrac{6}{25}$

Hence, option (a) is correct.

8. $\because$ 1000 grams = 1 kg

$\therefore$ 3700 grams $= \dfrac{3700}{1000}$ kg

$\qquad = 3.7$ kg

Hence, option (b) is correct.

9. Option (b) is correct.

10. $1.004 - 0.4$

```
   1.004
 − 0.400
 − 0.604
```

Hence, option (c) is correct.

MENTAL MATHS CORNER

1. If $7.645 \times 4.8 = 36.696$, then $76.45 \times 0.48 = $ **36.696**.

2. $31.4965 \times $ **100** $= 3149.65$.

3. $2.89 \div 1.7$ is equal to **1.7**.

4. $\dfrac{1}{200}$ in decimals can be written as **0.005**.

5. 2.5 when multiplied by **2.5** gives the product 6.25.

6. 342 cm = **3.42** metre.

7. $(4.26 - 3.26) \div 100 = $ **0.01**.

8. On multiplying a decimal by 100, the decimal is shifted to the **right** by two places.

9. One bag of sugar weighs = 8 kg 500 gm

$\qquad = 8.500$ kg

$\therefore$ 10 bags of sugar weighs = 8.500×10 kg

$\qquad = 85.00$ kg

$\therefore$ If one bag of sugar weighs 8 kg 500 g, then 10 bags will weigh **85 kg**.

10. Other decimal $= \dfrac{1.56}{1.2} = \dfrac{1.56 \times 10}{1.2 \times 10}$

$\qquad = \dfrac{15.6}{12}$

$\qquad = 1.3$

$\therefore$ The product of two decimals is 1.56. If one of them is 1.2, then other is **1.3**.

REVIEW EXERCISE

1. Convert given decimals into like decimals, we have

$\qquad$ 7.46, 7.64, 7.60, 7.40, 7.06, 7.04

Clearly,

$\qquad 7.04 < 7.06 < 7.40 < 7.46 < 7.64$

Hence,

7.04, 7.06, 7.4, 7.46, 7.6 are in ascending order.

2. (i) $\dfrac{4}{5} = \dfrac{4 \times 2}{5 \times 2} = \dfrac{8}{10} = 0.8$

(ii) $\dfrac{6528}{1000} = 6.528$

(iii) $\dfrac{39}{25} = \dfrac{39 \times 4}{25 \times 4} = \dfrac{156}{100} = 1.56$

(iv) $3\dfrac{5}{8} = \dfrac{29}{8} = \dfrac{29 \times 125}{8 \times 125} = \dfrac{3625}{1000}$

$\qquad\qquad = 3.625$

3. $19.8 + 7.26 + 0.074 + 2.37$

```
   19.800
    7.260
    0.074
 +  2.370
   29.504
```

4. $7 - 3.6204$

```
   7.0000
 − 3.6204
   3.3796
```

5. (i) 32.5×1000

$\qquad 32.5 \times 1000 = 32500 \qquad$ ($\because$ decimal point shifts three places to right)

(ii) 0.237×15

$\qquad$ First, we multiply without decimal point.

$\qquad\qquad 237 \times 15 = 3555$

$\qquad \therefore \quad 0.237 \times 15 = 3.555 \quad$ (Put the decimal point after three digits)

(iii) 0.0065×4

$\qquad\qquad 65 \times 4 = 260 \qquad$ (Multiplying without decimal point)

$\qquad \therefore \quad 0.0065 \times 4 = 0.0260 \quad$ (Put the decimal point after four digits)

(iv) 0.327×12

$\qquad\qquad 327 \times 12 = 3924 \qquad$ (Multiplying without decimal point)

$\qquad \therefore \quad 0.327 \times 12 = 3.924 \quad$ (Put the decimal point after three digits)

6. (*i*) 7.4 × 2.6

First, we multiply without decimal point.

74 × 26 = 1924

Now,

7.4	×	2.6	=	19.24
(1 decimal place)		(1 decimal place)		(1 + 1 = 2 decimal places)

∴   7.4 × 2.6 = 19.24

(*ii*) 4.26 × 0.08

First, we multiply without decimal point.

426 × 8 = 3408

Now,

4.26	×	0.08	=	0.3408
(2 decimal places)		(2 decimal places)		(2 + 2 = 4 decimal places)

∴   4.26 × 0.08 = 0.3408

(*iii*) 0.016 × 0.26

First, we multiply without decimal point.

16 × 26 = 416

Now,

0.016	×	0.26	=	0.00416
(3 decimal places)		(2 decimal places)		(3 + 2 = 5 decimal places)

∴   0.016 × 0.26 = 0.00416

(*iv*) 0.004 × 0.39

First, we multiply without decimal point.

4 × 39 = 156

Now,

0.004	×	0.39	=	0.00156
(3 decimal places)		(2 decimal places)		(2 + 3 = 5 decimal places)

∴   0.004 × 0.39 = 0.00156.

7. (*i*) 0.068 by 0.004

$$\frac{0.068}{0.004} = \frac{0.068 \times 1000}{0.004 \times 1000} = \frac{68}{4}$$

$$
\begin{array}{r}
17 \\
4\overline{)\,68\,(} \\
\underline{-4} \\
28 \\
\underline{-28} \\
0
\end{array}
$$

∴   0.068 ÷ 0.004 = 17

(*ii*) 217.35 by 6.3

$$\frac{217.35}{6.3} = \frac{217.35 \times 10}{6.3 \times 10} = \frac{2173.5}{63}$$

$$
\begin{array}{r}
63\overline{)\,2173.5\,(34.5} \\
\underline{-189} \\
283 \\
\underline{-252} \\
315 \\
\underline{-315} \\
0
\end{array}
$$

∴ $\frac{217.35}{6.3}$ = 34.5

(*iii*) 7804.5 by 104.06

$$\frac{7804.5}{104.06} = \frac{7804.5 \times 100}{104.06 \times 100} = \frac{780450}{10406}$$

$$
\begin{array}{r}
10406\overline{)\,780450\,(75} \\
\underline{-72842} \\
52030 \\
\underline{-52030} \\
0
\end{array}
$$

∴ $\frac{7804.5}{104.06}$ = 75

(*iv*) 0.06764 by 0.089

$$\frac{0.06764}{0.089} = \frac{0.06764 \times 1000}{0.089 \times 1000} = \frac{67.64}{89}$$

$$
\begin{array}{r}
89\overline{)\,67.64\,(0.76} \\
\underline{-0} \\
676 \\
\underline{-623} \\
534 \\
\underline{-534} \\
0
\end{array}
$$

∴ $\frac{0.06764}{0.089}$ = 0.76.

8. I decimal number × II decimal number

= Product of two decimal numbers

1.6 × II decimal number = 0.768

II decimal number = $\frac{0.768}{1.6}$

= $\frac{0.768 \times 10}{1.6 \times 10}$

= $\frac{7.68}{16}$ = 0.48

Hence, the required decimal number is 0.48.

9. Charges for a journey of 94.8 km = ₹ 687.30

∴   Charges for a journey of 1 km = ₹ $\left(\frac{687.30}{94.8}\right)$

$\therefore$ Charges for a journey of 10 km = $\overline{₹}\left(\dfrac{687.30 \times 10}{94.8}\right)$

$$= \overline{₹}\left(\dfrac{687.30 \times 10 \times 10}{94.8 \times 10}\right)$$

$$= \overline{₹}\left(\dfrac{68730}{948}\right)$$

$$= \overline{₹}\,72.50$$

$$\begin{array}{r} 948\overline{)68730}\,(72.5 \\ -\underline{6636} \\ 2370 \\ -\underline{1896} \\ 4740 \\ -\underline{4740} \\ 0 \end{array}$$

Hence, A taxi driver charges $\overline{₹}\,72.5$ for a journey of 10 km.

10. Side of the square = 4.05 m

Area of square = side × side

$$= (4.05 \times 4.05) \text{ sq. m}$$

$$= 16.4025 \text{ sq. m}$$

Hence, area of a square is 16.4025 sq. m.

11. Length of a rectangle = 13.25 m,

Breadth of a rectangle = 5.10 m

Area of rectangle = length × breadth

$$= (13.25 \times 5.10) \text{ sq. m}$$

$$= 67.575 \text{ sq. m}$$

$\therefore$ Area of rectangle is 67.575 sq. m.

12. The cost of a flower vase = $\overline{₹}\,32.75$

$\therefore$ The cost of 11 flower vase = $\overline{₹}\,(32.75 \times 11)$

$$= \overline{₹}\,360.25$$

$\therefore$ The cost of 11 flower vase is $\overline{₹}\,360.25$.

13. Number of pieces = $\dfrac{\text{Total length of cloth}}{\text{length of a piece}}$

$$= \dfrac{90 \text{ m}}{1.20 \text{ m}} = \dfrac{90}{1.20}$$

$$= \dfrac{90 \times 100}{1.20 \times 100} = \dfrac{9000}{120}$$

$$= 75$$

Hence, she get 75 pieces of cloth.

HOTS QUESTIONS

1. The perimeter of a regular polygon = 19.2 cm

length of side = 3.2 cm

$\therefore$ Number of sides of a regular polygon = $\dfrac{19.2}{3.2}$

$$= \dfrac{19.2 \times 10}{3.2 \times 10} = \dfrac{192}{32}$$

$$= 6$$

Hence, it is a hexagon having 6 sides.

2. Since, a basket has 2 pineapples, 5 apples, 4 bananas, 1 watermelon.

The cost of 2 pineapples = $\overline{₹}\,(2 \times 13.25)$ = $\overline{₹}\,26.50$

The cost of 5 apples   = $\overline{₹}\,(5 \times 4.50)$ = $\overline{₹}\,22.50$

The cost of 4 bananas   = $\overline{₹}\,(4 \times 2.75)$ = $\overline{₹}\,11.00$

The cost of 1 watermelon   = $\overline{₹}\,23.50$

The cost of empty basket   = $\overline{₹}\ \ 5.50$

total cost   = $\overline{₹}\,89.00$

Number of such baskets = $\dfrac{\overline{₹}\,6675}{\overline{₹}\,89.00}$

$$= \dfrac{6675}{89} = 75$$

3. $0.8\% = 0.8 \times \dfrac{1}{100}$

$$= \dfrac{8}{10} \times \dfrac{1}{100} = \dfrac{\cancel{8}^{1}}{\cancel{1000}_{125}}$$

$$= \dfrac{1}{125}.$$

VALUE BASED QUESTION
SUMMATIVE ASSESSMENT

Fare of a taxi for 1 km = $\overline{₹}\,27.20$

$\therefore$ Fare of a taxi for 85.4 km = $\overline{₹}\,(27.20 \times 85.4)$

$$= \overline{₹}\,2322.88$$

But, Rahul pays for taxi driver = $\overline{₹}\,2500$

(a) Hence, Rahul pay $\overline{₹}\,(2500 - 2322.80)$ = $\overline{₹}\,177.12$ extra.

(b) No, the taxi driver was dishonest, because he charged extra money from Rahul.