Decimals
Exercise 3A

Q1

Answer :

We have:

(i) $0.8 = \frac{8}{10} = \frac{8 \div 2}{10 \div 2} = \frac{4}{5}$

(ii) $0.75 = \frac{75}{100} = \frac{75 \div 25}{100 \div 25} = \frac{3}{4}$

(iii) $0.06 = \frac{6}{100} = \frac{6 \div 2}{100 \div 2} = \frac{3}{50}$

(iv) $0.285 = \frac{285}{1000} = \frac{285 \div 5}{1000 \div 5} = \frac{57}{200}$

Q2

Answer :

We have:

(i) $5.6 = \frac{56}{10} = \frac{56 \div 2}{10 \div 2} = \frac{28}{5} = 5\frac{3}{5}$

(ii) $12.25 = \frac{1225}{100} = \frac{1225 \div 25}{100 \div 25} = \frac{49}{4} = 12\frac{1}{4}$

(iii) $6.004 = \frac{6004}{1000} = \frac{6004 \div 4}{1000 \div 4} = \frac{1501}{250} = 6\frac{1}{250}$

(iv) $4.625 = \frac{4625}{1000} = \frac{4625 \div 125}{1000 \div 125} = \frac{37}{8} = 4\frac{5}{8}$

Q3

Answer :

(i) $\frac{47}{10}$

On dividing, we get:

$$\begin{array}{r} 10\overline{)\,47\,(4.7} \\ \underline{-40} \\ 70 \\ \underline{-70} \\ \times \end{array}$$

$\therefore \frac{47}{10} = 4.7$

(ii) $\frac{156}{100}$

On dividing, we get:

Q4

Answer :

Converting the given decimals into like decimals, we have:

(i) 6.500, 16.030, 0.274 and 119.400

(ii) 3.50, 0.67, 15.60 and 4.00

Q5

Answer :

We have,

(i) Comparing the whole number part, 78 > 69.

Thus, 78.23 > 69.85

(ii) Converting the decimals into like decimals, we get 3.406 and 3.460.

Comparing the whole number parts, 3 = 3

Comparing the tenths digit, 4 = 4

Comparing the hundredths digit, 6 > 0

Thus, 3.406 < 3.46

(iii) Comparing the whole number parts, 5 = 5

Comparing the tenths digit, 6 < 8

Thus, 5.68 < 5.86

(iv) Converting the decimals into like decimals, we get 14.050 and 14.005.

Comparing the whole number parts, 14 = 14

Comparing the tenths digit, 0 = 0

Comparing the hundredths digit, 5 > 0

Thus, 14.05 > 14.005

(v) Converting the decimals into like decimals, we get 1.850 and 1.805.

Comparing the whole number parts, 1 = 1

Comparing the tenths digit, 8 = 8

Comparing the hundredths digit, 5 > 0

Thus, 1.85 > 1.805

(vi) Comparing the whole number parts, 0 < 1

Thus, 0.98 < 1.07

Q6

Answer :

(i) Converting the given decimals into like decimals, we get:
4.60, 7.40, 4.58, 7.32, 4.06
Clearly, 4.06 < 4.58 < 4.60 < 7.32 < 7.40
Hence, the given decimals in ascending order are 4.06, 4.58, 4.6, 7.32 and 7.4.

(ii) Converting the given decimals into like decimals, we get:
0.50, 5.50, 5.05, 0.05, 5.55
Clearly, 0.05 < 0.50 < 5.05< 5.50 < 5.55
Hence, the given decimals in ascending order are 0.05, 0.5, 5.05, 5.5 and 5.55.

(iii) Converting the given decimals into like decimals, we get:
6.84, 6.48, 6.80, 6.40, 6.08
Clearly, 6.08 < 6.40 < 6.48 < 6.80< 6.84
Hence, the given decimals in ascending order are 6.08, 6.4, 6.48, 6.8 and 6.84.

(iv) Converting the given decimals into like decimals, we get:
2.200, 2.202, 2.020, 22.200, 2.002
Clearly, 2.002 < 2.020 < 2.200 < 2.202 < 22.200
Hence, the given decimals in ascending order are 2.002, 2.02, 2.2, 2.202 and 22.2.

Q7

Answer :

(i) Converting the given decimals into like decimals, we get:
7.40, 8.34, 74.40, 7.44, 0.74
Clearly, 74.40 > 8.34 > 7.44 > 7.40 > 0.74
Hence, the given decimals in descending order are 74.4, 8.34, 7.44, 7.4 and 0.74.

(ii) Converting the given decimals into like decimals, we get:
2.600, 2.260, 2.060, 2.007, 2.300
Clearly, 2.600 > 2.300 > 2.260 > 2.060 > 2.007
Hence, the given decimals in descending order are 2.6, 2.3, 2.26, 2.06 and 2.007.

Q8

Answer :

45 mm = $\frac{45}{10}$ cm = 4.5 cm

= 4.5 cm = $\frac{4.5}{100}$ $\mathbf{m}$ = 0.045 m

= 0.045 m = $\frac{0.045}{1000}$ $\mathbf{km}$ = 0.000045 km

∴ 45 mm = 4.5 cm = 0.045 m = 0.000045 km

Q9

Answer :

We have:
(i) 8 paise = Rs $\frac{8}{100}$ = Rs 0.08

(ii) 9 rupees 75 paise = Rs $\left(9+\frac{75}{100}\right) = \mathbf{Rs}\ \left(9+0.75\right)$ = Rs 9.75

(iii) 8 rupees 5 paise = $\mathbf{Rs}\ \left(8+\frac{5}{100}\right) = \mathbf{Rs}\ \left(8+0.05\right)$ = Rs 8.05

Q10

Answer :

We have:

(i) 65 m = $\frac{65}{1000}$ km = 0.065 km
∴ 65 m = 0.065 km

(ii) 284 m = $\frac{284}{1000}$ km = 0.284 km

(iii) 3 km 5 m = $\left(3+\frac{5}{1000}\right) = (3+0.005) = 3.005\ \mathbf{km}$

Decimals
Exercise 3B

Q1

Answer :

Converting the given decimals into like decimals, we get:
16.00, 8.70, 0.94, 6.80 and 7.77
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 16.00 \\ 8.70 \\ 0.94 \\ 6.80 \\ 7.77 \\ \hline 40.21 \end{array}$$

Hence, the sum of the given decimals is 40.21

Q2

Answer :

Converting the given decimals into like decimals, we get:
18.600, 206.370, 8.008, 26.400 and 6.900
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 18.600 \\ 206.370 \\ 8.008 \\ 26.400 \\ 6.900 \\ \hline 266.278 \end{array}$$

Hence, the sum of the given decimals is 266.278.

Q3

Answer :

Converting the given decimals into like decimals, we get:
63.50, 9.70, 0.80, 26.66 and 12.17
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 63.50 \\ 9.70 \\ 0.80 \\ 26.66 \\ 12.17 \\ \hline 112.83 \end{array}$$

Hence, the sum of the given decimals is 112.83.

Q4

Answer :

Converting the given decimals into like decimals, we get:
17.400, 86.390, 9.435, 8.800 and 0.060
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 17.400 \\ 86.390 \\ 9.435 \\ 8.800 \\ 0.060 \\ \hline 122.085 \end{array}$$

Hence, the sum of the given decimals is 122.085.

Q5

Answer :

Converting the given decimals into like decimals, we get:
26.900, 19.740, 231.769 and 0.048
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 26.900 \\ 19.740 \\ 231.769 \\ 0.048 \\ \hline 278.457 \end{array}$$

Hence, the sum of the given decimals is 278.457.

Q6

Answer :

Converting the given decimals into like decimals, we get:
23.800, 8.940, 0.078 and 214.600
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 23.800 \\ 8.940 \\ 0.078 \\ 214.600 \\ \hline 247.418 \end{array}$$

Hence, the sum of the given decimals is 247.418.

Q7

Answer :

Converting the given decimals into like decimals, we get:
6.606, 66.600, 666.000, 0.066 and 0.660
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 6.606 \\ 66.600 \\ 666.000 \\ 0.066 \\ 0.660 \\ \hline 739.932 \end{array}$$

Hence, the sum of the given decimals is 739.932.

Q8

Answer :

Converting the given decimals into like decimals, we get:
9.090, 0.909, 99.900, 9.990 and 0.099
Writing these decimals in column form and adding, we get:

$$\begin{array}{r} 9.090 \\ 0.909 \\ 99.900 \\ 9.990 \\ 0.099 \\ \hline 119.988 \end{array}$$

Hence, the sum of the given decimals is 119.988.

Q9

Answer :

The given decimals are like decimals. Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 72.43 \\ -14.79 \\ \hline 57.64 \end{array}$$

∴ (72.43 − 14.79) = 57.64

Q10

Answer :

Converting the given decimals into like decimals, we get:
36.74 and 52.60
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 52.60 \\ -36.74 \\ \hline 15.86 \end{array}$$

∴ (52.60 − 36.74) = 15.86

Q11

Answer :

Converting the given decimals into like decimals, we get:
13.876 and 22.000
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 22.000 \\ -13.876 \\ \hline 8.124 \end{array}$$

∴ (22.000 − 13.876) = 8.124

Q12

Answer :

Converting the given decimals into like decimals, we get:
15.079 and 24.160
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 24.160 \\ -15.079 \\ \hline 9.081 \end{array}$$

∴ (24.160 − 15.079) = 9.081

Q13

Answer :

Converting the given decimals into like decimals, we get:
0.680 and 1.007
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 1.007 \\ -0.680 \\ \hline 0.327 \end{array}$$

∴ (1.007 − 0.680) = 0.327

Q14

Answer :

Converting the given decimals into like decimals, we get:
0.4678 and 5.0500
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 5.0500 \\ -0.4678 \\ \hline 4.5822 \end{array}$$

∴ (5.0500 − 0.4678) = 4.5822

Q15

Answer :

Converting the given decimals into like decimals, we get:
2.5307 and 8.0000
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 8.0000 \\ -2.5307 \\ \hline 5.4693 \end{array}$$

∴ (8.0000 − 2.5307) = 5.4693

Q16

Answer :

Writing the given like decimals in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 9.001 \\ -6.732 \\ \hline 2.269 \end{array}$$

∴ (9.001 − 6.732) = 2.269

Q17

Answer :

Converting the given decimals into like decimals, we get:
5.746 and 9.100
Writing them in column form with the larger one at the top and subtracting them, we get:

$$\begin{array}{r} 9.100 \\ -5.746 \\ \hline 3.354 \end{array}$$

∴ (9.100 − 5.746) = 3.354

Q18

Answer :

Converting the given decimals into like decimals, we get:
63.58 and 92.00
Thus, required number = (92.00 − 63.58) = 28.42
Hence, 28.42 should be added to 63.58 to get 92.

Q19

Answer :

Converting the given decimals into like decimals, we get:
8.100 and 0.813
Thus, required number = (8.100 − 0.813) = 7.287
Hence, 7.287 should be subtracted from 8.1 to get 0.813.

Q20

Answer :

Converting the given decimals into like decimals, we get:
32.67 and 60.10
Thus, required number = (60.10 − 32.67) = 27.43
Hence, 32.67 should be increased by 27.43 to get 60.1.

Q21

Answer :

Converting the given decimals into like decimals, we get:
74.30 and 26.87
Thus, required number = (74.30 − 26.87) = 47.43
Hence, 74.3 should be decreased by 47.43 to get 26.87.

Q22

Answer :

Total amount spent by Rohit on purchasing of the given articles = Rs (23.75 + 2.85 + 15.90)
= Rs 42.50
Money given to the shopkeeper = Rs 50
∴ Money returned by the shopkeeper = Rs (50 − 42.50)
= Rs 7.50
Thus, amount received by Rohit = Rs 7.50

Decimals
Exercise 3C

Q1

Answer :

We have the following:

(i) 73.92 × 10 = 739.2 [Shifting the decimal point to the right by 1 place]
(ii) 7.54 × 10 = 75.4 [Shifting the decimal point to the right by 1 place]
(iii) 84.003 × 10 = 840.03 [Shifting the decimal point to the right by 1 place]
(iv) 0.83 × 10 = 8.3 [Shifting the decimal point to the right by 1 place]
(v) 0.7 × 10 = 7 [Shifting the decimal point to the right by 1 place]
(vi) 0.032 × 10 = 0.32 [Shifting the decimal point to the right by 1 place]

Q2

Answer :

We have the following:

(i) 2.397 × 100 = 239.7 [Shifting the decimal point to the right by 2 places]
(ii) 6.83 × 100 = 683 [Shifting the decimal point to the right by 2 places]
(iii) 2.9 × 100 = 290 [Shifting the decimal point to the right by 2 places]
(iv) 0.08 ×100 = 8 [Shifting the decimal point to the right by 2 places]
(v) 0.6 × 100 = 60 [Shifting the decimal point to the right by 2 places]
(vi) 0.003 × 100 = 0.3 [Shifting the decimal point to the right by 2 places]

Q3

Answer :

We have:
(i) 6.7314 × 1000 = 6731.4 [Shifting the decimal point to the right by 3 places]
(ii) 0.182 × 1000 = 182 [Shifting the decimal point to the right by 3 places]
(iii) 0.076 × 1000 = 76 [Shifting the decimal point to the right by 3 places]
(iv) 6.25 × 1000 = 6250 [Shifting decimal point to the right by 3 places]
(v) 4.8 × 1000 = 4800 [Shifting the decimal point to the right by 3 places]
(vi) 0.06 × 1000 = 60 [Shifting the decimal point to the right by 3 places]

Q4

Answer :

We have the following:

(i) $54 \times 16 = 864$
$\therefore 5.4 \times 16 = 86.4$ [1 place of decimal]

(ii) $365 \times 19 = 6935$
$\therefore 3.65 \times 19 = 69.35$ [2 places of decimal]

(iii) $854 \times 12 = 10248$
$\therefore 0.854 \times 12 = 10.248$ [3 places of decimal]

(iv) $3673 \times 48 = 176304$
$\therefore 36.78 \times 48 = 1763.04$ [2 places of decimal]

(v) $4125 \times 86 = 354750$
$\therefore 4.125 \times 86 = 354.750$ [3 places of decimal]
$= 354.75$

(vi) $10406 \times 75 = 780450$
$\therefore 104.06 \times 75 = 7804.50$ [2 places of decimal]
$= 7804.5$

(vii) $6032 \times 124 = 747968$
$\therefore 6.032 \times 124 = 747.968$ [3 places of decimal]

(viii) $146 \times 69 = 10074$
$\therefore 0.0146 \times 69 = 1.0074$ [4 places of decimal]

(ix) $125 \times 327 = 40875$
$\therefore 0.00125 \times 327 = 0.40875$ [5 places of decimal]

Q5

Answer :

(i) First, we will multiply 76 by 24.

$$\begin{array}{r} 76 \\ \times 24 \\ \hline 304 \\ 152\times \\ \hline 1824 \end{array}$$

$\therefore 76 \times 24 = 1824$
Sum of decimal places in the given numbers = (1 + 1) = 2
$\therefore 7.6 \times 2.4 = 18.24$ [2 places of decimal]

(ii) First, we will multiply 345 by 63.

$$\begin{array}{r} 345 \\ \times 63 \\ \hline 1035 \\ 2070\times \\ \hline 21735 \end{array}$$

$\therefore 345 \times 63 = 21735$
Sum of decimal places in the given numbers = (2 + 1) = 3
$\therefore 3.45 \times 6.3 = 21.735$ [3 places of decimal]

(iii) First, we will multiply 54 by 27.

$$\begin{array}{r} 54 \\ \times 27 \\ \hline 378 \\ 108\times \\ \hline 1458 \end{array}$$

∴ 54 × 27 = 1458

Sum of decimal places in the given numbers = (2 + 2) = 4

∴ 0.54 × 0.27 = 0.1458 [4 places of decimal]

(iv) First, we will multiply 568 by 49.

$$\begin{array}{r} 568 \\ \times 49 \\ \hline 5112 \\ 2072\times \\ \hline 27832 \end{array}$$

∴ 568 × 49 = 27832

Sum of decimal places in the given numbers = (3 + 1) = 4

∴ 0.568 × 4.9 = 2.7832 [4 places of decimal]

(v) First, we multiply 654 by 9.

$$\begin{array}{r} 654 \\ \times 9 \\ \hline 5886 \end{array}$$

∴ 654 × 9 = 5886

Sum of decimal places in the given numbers = (2 + 2) = 4

∴ 6.54 × 0.09 = 0.5886 [4 places of decimal]

(vi) First, we will multiply 387 by 125.

$$\begin{array}{r} 387 \\ \times 125 \\ \hline 1935 \\ 774\times \\ 387\times\times \\ \hline 48375 \end{array}$$

∴ 387 × 125 = 48375

Sum of decimal places in the given numbers = (2 + 2) = 4

∴ 3.87 × 1.25 = 4.8375 [4 places of decimal]

(vii) First, we will multiply 38 by 6.

$$\begin{array}{r} 38 \\ \times 6 \\ \hline 228 \end{array}$$

∴ 38 × 6 = 228

Sum of decimal places in the given numbers = (2 + 2) = 4

∴ 0.06 × 0.38 = 0.0228 [4 places of decimal]

(viii) First, we will multiply 623 by 75.

$$\begin{array}{r} 623 \\ \times 75 \\ \hline 3115 \\ 4361\times \\ \hline 46725 \end{array}$$

∴ 623 × 75 = 46725

Sum of decimal places in the given numbers = (3 + 2) = 5

∴ 0.623 × 0.75 = 0.46725 [5 places of decimal]

(ix) First, we will multiply 14 by 46.

$$\begin{array}{r} 14 \\ \times 46 \\ \hline 84 \\ 56\times \\ \hline 644 \end{array}$$

∴ 14 × 46 = 644

Sum of decimal places in the given numbers = (3 + 2) = 5

∴ 0.014 × 0.46 = 0.00644 [5 places of decimal]

(x) First, we will multiply 545 by 176.

$$\begin{array}{r} 545 \\ \times 176 \\ \hline 3270 \\ 3815\times \\ 545\times\times \\ \hline 95920 \end{array}$$

∴ 545 × 176 = 95920

Sum of decimal places in the given numbers = (1 + 2) = 3

∴ 54.5 × 1.76 = 95.920 [3 places of decimal]

= 95.92

(xi) First, we will multiply 45 by 24.

$$\begin{array}{r} 45 \\ \times 24 \\ \hline 180 \\ 90\times \\ \hline 1080 \end{array}$$

∴ 45 × 24 = 1080

Sum of decimal places in the given numbers = (3 + 1) = 4

∴ 0.045 × 2.4 = 0.1080 [4 places of decimal]

= 0.108

(xii) First, we will multiply 1245 by 64.

$$\begin{array}{r} 1245 \\ \times 64 \\ \hline 4980 \\ 7470\times \\ \hline 79680 \end{array}$$

∴ 1245 × 64 = 79680

Sum of decimal places in the given numbers = (3 + 1) = 4

∴ 1.245 × 6.4 = 7.9680 [4 places of decimal]

= 7.968

Q6

Answer :

(i) First, we will find the product 13 × 1.3 × 0.13.

Now, 13 × 13 × 13 = 169 x 13

= 2197

$$\begin{array}{r} 169 \\ \times 13 \\ \hline 507 \\ 169\times \\ \hline 2197 \end{array}$$

Sum of decimal places in the given numbers = (1 + 2) = 3

So, the product must have three decimal places.

∴ 13 × 1.3 × 0.13 = 2.197

(ii) First, we will find the product 2.4 × 1.5 × 2.5.

Now, 24 × 15 × 25 = 360 x 25

= 9000

$$\begin{array}{r} 360 \\ \times 25 \\ \hline 1800 \\ 720\times \\ \hline 9000 \end{array}$$

Sum of decimal places in the given numbers = (1 + 1 + 1) = 3

So, the product must have three decimal places.

∴ 2.4 × 1.5 × 2.5 = 9.000

= 9

(iii) First, we will find the product 0.8 × 3.5 × 0.05.

Now, 8 × 35 × 5 = 280 × 5

= 1400

$$\begin{array}{r} 280 \\ \times 5 \\ \hline 1400 \end{array}$$

Sum of decimal places in the given numbers = (1 + 1 + 2) = 4

So, the product must have four decimal places.

∴ 0.8 × 3.5 × 0.05 = 0.1400

= 0.14

(iv) First, we will find the product 0.2 × 0.02 × 0.002.

Now, 2 × 2 × 2 = 4 × 2

= 8

Sum of decimal places in the given numbers = (1 + 2 + 3) = 6

So, the product must have six decimal places.

∴ 0.2 × 0.02 × 0.002 = 0.000008

(v) First, we will find the product 11.1 × 1.1 × 0.11.

Now, 111 × 11 × 11 = 1221 × 11

= 13431

$$\begin{array}{r} 1221 \\ \times 11 \\ \hline 1221 \\ 1221\times \\ \hline 13431 \end{array}$$

Sum of decimal places in the given numbers = (1 + 1 + 2) = 4

So, the product must have four decimal places.

∴ 11.1 × 1.1 × 0.11 = 1.3431

(vi) First, we will find the product 2.1 × 0.21 × 0.021.

Now, 21 × 21 × 21 = 441 × 21

= 9261

$$\begin{array}{r} 441 \\ \times 21 \\ \hline 441 \\ 882\times \\ \hline 9261 \end{array}$$

Sum of decimal places in the given numbers = (1 + 2 + 3) = 6

So, the product must have six decimal places.

∴ 2.1 × 0.21 × 0.021 = 0.009261

Q7

Answer :

(i) $(1.2)^2 = 1.2 \times 1.2$

First, we will find the product 1.2×1.2.

Now, $12 \times 12 = 144$

Sum of decimal places in the given numbers = (1 + 1) = 2

So, the product must have two decimal places.

$\therefore (1.2)^2 = 1.2 \times 1.2 = 1.44$

(ii) $(0.7)^2 = 0.7 \times 0.7$

First, we will find the product 0.7×0.7.

Now, $7 \times 7 = 49$

Sum of decimal places in the given numbers = (1 + 1) = 2

So, the product must have two decimal places.

$\therefore (0.7)^2 = 0.7 \times 0.7 = 0.49$

(iii) $(0.04)^2 = 0.04 \times 0.04$

First, we will find the product 0.04×0.04.

Now, $4 \times 4 = 16$

Sum of decimal places in the given numbers = (2 + 2) = 4

So, the product must have four decimal places.

$\therefore (0.04)^2 = 0.04 \times 0.04 = 0.0016$

(iv) $(0.11)^2 = 0.11 \times 0.11$

First, we will find the product 0.11×0.11.

Now, $11 \times 11 = 121$

Sum of decimal places in the given numbers = (2 + 2) = 4

So, the product must have four decimal places.

$\therefore (0.11)^2 = 0.11 \times 0.11 = 0.0121$

Q8

Answer :

(i) $(0.3)^3 = 0.3 \times 0.3 \times 0.3$

First, we will find the product $3 \times 3 \times 3$.

Now, $3 \times 3 \times 3 = 27$

Sum of decimal places in the given numbers = (1 + 1 + 1) = 3

So, the product must have three places of decimal.

$\therefore (0.3)^3 = 0.3 \times 0.3 \times 0.3 = 0.027$

(ii) $(0.05)^3 = 0.05 \times 0.05 \times 0.05$

First, we will find the product $5 \times 5 \times 5$.

Now, $5 \times 5 \times 5 = 125$

Sum of decimal places in the given numbers = (2 + 2 + 2) = 6

So, the product must have six decimal places.

$\therefore (0.05)^3 = 0.05 \times 0.05 \times 0.05 = 0.000125$

(iii) $(1.5)^3 = 1.5 \times 1.5 \times 1.5$

First, we will find the product $15 \times 15 \times 15$.

Now, $15 \times 15 \times 15 = 225 \times 15 = 3375$

$$\begin{array}{r} 225 \\ \times 15 \\ \hline 1125 \\ 225\times \\ \hline 3375 \end{array}$$

Sum of decimal places in the given numbers = (1 + 1 + 1) = 3

So, the product must have three decimal places.

$\therefore (1.5)^3 = 1.5 \times 1.5 \times 1.5 = 3.375$

Q9

Answer :

Distance covered by the bus in 1 hour = 62.5 km

$\therefore$ Distance covered in 18 hours = (62.5×18) km

= 1125 km

Hence, the bus can cover a distance of 1125 km in 18 hours.

Q10

Answer :

Weight of 1 tin of oil = 16.8 kg
∴ Weight of 45 such tins = (16.8 × 45) kg
= 756 kg
Hence, the weight of 45 tins of oil is 756 kg.

Q11

Answer :

Weight of 1 bag of wheat = 97.8 kg
∴ Weight of 500 such bags = (97.8 x 500) kg
= 48900 kg
Hence, the weight of 500 bags of wheat is 48900 kg.

Q12

Answer :

Weight of 1 bag of sugar = 48.450 kg
∴ Weight of 16 bags of sugar = (48.450 × 16) kg
= 775.2 kg

$$\begin{array}{r} 48450 \\ \times 16 \\ \hline 290700 \\ 48450\times \\ \hline 775200 \end{array}$$

Hence, the weight of 16 bags of sugar is 775.2 kg.

Q13

Answer :

Capacity of 1 sauce bottle = 0.845 kg
∴ Capacity of 72 such bottles = (0.845 × 72) kg
= 60.84 kg

$$\begin{array}{r} 845 \\ \times 72 \\ \hline 1690 \\ 5915\times \\ \hline 60840 \end{array}$$

Hence, the capacity of 72 bottles of sauce will be 60.84 kg.

Q14

Answer :

Weight of 1 bottle of jam = 925 g =0.925 kg
∴ Weight of 25 such bottles = (0.925 × 25) kg
= 23.125 kg

$$\begin{array}{r} 925 \\ \times 25 \\ \hline 6425 \\ 1850\times \\ \hline 23125 \end{array}$$

∴ The weight of 25 bottles of jam will be 23.125 kg.

Q15

Answer :

Capacity of 1 drum of oil = 16.850 litres
∴ Capacity of 48 such drums = (16.850 x 48) litres
= 808.800 litres

$$\begin{array}{r} 16850 \\ \times 48 \\ \hline 134800 \\ 67400\times \\ \hline 808800 \end{array}$$

Hence, the capacity of 48 drums of oil is 808.800 litres.

Q16

Answer :

Cost of 1 kg of rice =Rs 56.80

∴ Cost of 16.25 kg of rice = Rs (56.80 × 16.25)

= Rs 923

$$\begin{array}{r} 5680 \\ \times 1625 \\ \hline 28400 \\ 11360\times \\ 34080\times\times \\ 5680\times\times\times \\ \hline 9230000 \end{array}$$

Hence, the cost of 16.25 kg of rice is Rs 923.

Q17

Answer :

Cost of 1 m of cloth = Rs 108.50

∴ Cost of 18.5 m of cloth = Rs (108.50 x 18.5)

= Rs 2007.25

$$\begin{array}{r} 10850 \\ \times 185 \\ \hline 54250 \\ 86800\times \\ 10850\times\times \\ \hline 2007250 \end{array}$$

Hence, the cost of 18.5 m of cloth is Rs 2007.25.

Q18

Answer :

Distance covered by the car with 1 litre of petrol = 8.6 km

∴ Distance covered with 36.5 litres of petrol = (8.6 × 36.5) km

= 313.900 km

Hence, the distance covered by the car with 36.5 litres of petrol is 313.900 km.

Q19

Answer :

Charges for 1 km = Rs 9.80

∴ Charges for 106.5 km = Rs (9.80 × 106.5)

= Rs 1043.70

Hence, the taxi driver will charge Rs 1043.70 for a journey of 106.5 km.

Decimals
Exercise 3D

Q1

Answer :

We have the following:

(i) 131.6 ÷ 10 = $\frac{131.6}{10} = 13.16$ [Shift the decimal point to the left by 1 place]

(ii) 32.56 ÷ 10 = $\frac{32.56}{10} = 3.256$ [Shift the decimal point to the left by 1 place]

(iii) 4.38 ÷ 10 = $\frac{4.38}{10} = 0.438$ [Shift the decimal point to the left by 1 place]

(iv) 0.34 ÷ 10 = $\frac{0.34}{10} = 0.034$ [Shift the decimal point to the left by 1 place]

(v) 0.08 ÷ 10 = $\frac{0.08}{10} = 0.008$ [Shift the decimal point to the left by 1 place]

(vi) 0.062 ÷ 10 = $\frac{0.062}{10} = 0.0062$ [Shift the decimal point to the left by 1 place]

Q2

Answer :

We have the following:

(i) 137.2 ÷ 100 = $\frac{137.2}{100} = 1.372$ [Shifting the decimal point to the left by 2 places]

(ii) 23.4 ÷ 100 = $\frac{23.4}{100} = 0.234$ [Shifting the decimal point to the left by 2 places]

(iii) 4.7 ÷ 100 = $\frac{4.7}{100} = 0.047$ [Shifting the decimal point to the left by 2 places]

(iv) 0.3 ÷ 100 = $\frac{0.3}{100} = 0.003$ [Shifting the decimal point to the left by 2 places]

(v) 0.58 ÷ 100 = $\frac{0.58}{100} = 0.0058$ [Shifting the decimal point to the left by 2 places]

(vi) 0.02 ÷ 100 = $\frac{0.02}{100} = 0.0002$ [Shifting the decimal point to the left by 2 places]

Q3

Answer :

We have the following:

(i) 1286.5 ÷ 1000 = $\frac{1286.5}{1000} = 1.2865$ [Shift the decimal point to the left by 3 places]

(ii) 354.16 ÷ 1000 = $\frac{354.16}{1000} = 0.35416$ [Shift the decimal point to the left by 3 places]

(iii) 38.9 ÷ 1000 = $\frac{38.9}{1000} = 0.0389$ [Shift the decimal point to the left by 3 places]

(iv) 4.6 ÷ 1000 = $\frac{4.6}{1000} = 0.0046$ [Shift the decimal point to the left by 3 places]

(v) 0.8 ÷ 1000 = $\frac{0.8}{1000} = 0.0008$ [Shift the decimal point to the left by 3 places]

(vi) 2 ÷ 1000 = $\frac{2}{1000} = 0.002$ [Shift the decimal point to the left by 3 places]

Q4

Answer :

(i) 12 ÷ 8 = $\frac{12}{8} = \frac{3}{2}$

$$
\begin{array}{r}
2\overline{)\,3\,(1.5} \\
-2 \\
\hline
10 \\
-10 \\
\hline
\times
\end{array}
$$

∴ 12 ÷ 8 = 1.5

(ii) 63 ÷ 15 = $\frac{63}{15} = \frac{21}{5}$

$$
\begin{array}{r}
5\overline{)\,21\,(4.2} \\
20 \\
\hline
10 \\
-10 \\
\hline
\times
\end{array}
$$

∴ 63 ÷ 15 = 4.2

(iii) 47 ÷ 20 = $\frac{47}{20}$

$$
\begin{array}{r}
20\overline{)\,47\,(2.35} \\
-40 \\
\hline
70 \\
-60 \\
\hline
100 \\
-100 \\
\hline
\times
\end{array}
$$

∴ 47 ÷ 20 = 2.35

(iv) 101 ÷ 25 = $\frac{101}{25}$

$$
\begin{array}{r}
25\overline{)101(4.04} \\
-100 \\
\hline
100 \\
-100 \\
\hline
\times
\end{array}
$$

∴ 101 ÷ 25 = 4.04

(v) 31 ÷ 40

$$
\begin{array}{r}
\quad 0.775 \\
40\overline{)3100} \leftarrow \text{two zero annexed} \\
-0 \\
\hline
31 \\
-28 \\
\hline
30 \\
-28 \\
\hline
20 \\
-20 \\
\hline
\times
\end{array}
$$

∴ 31 ÷ 40 = 0.775

(vi) $11 \div 16 = \frac{11}{16}$

$$
\begin{array}{r}
0.6875 \\
16\overline{)110000} \\
-00 \\
\hline
110 \\
-96 \\
\hline
140 \\
-128 \\
\hline
120 \\
-112 \\
\hline
80 \\
-80 \\
\hline
\times
\end{array}
\quad \longleftarrow \text{four zero annexed}
$$

$\therefore 11 \div 16 = 0.6875$

Q5

Answer :

(i) We have:

$43.2 \div 6$

$$
\begin{array}{r}
7.2 \\
6\overline{)43.2} \\
-42 \\
\hline
12 \\
-12 \\
\hline
\times
\end{array}
$$

$\therefore 43.2 \div 6 = 7.2$

(ii) We have:

$60.48 \div 12$

$$
\begin{array}{r}
5.04 \\
12\overline{)60.48} \\
-60 \\
\hline
04 \\
-0 \\
\hline
48 \\
-48 \\
\hline
\times
\end{array}
$$

$\therefore 60.48 \div 12 = 5.04$

(iii) We have:

$117.6 \div 21$

$$
\begin{array}{r}
5.6 \\
21\overline{)1176} \\
-105 \\
\hline
126 \\
-126 \\
\hline
\times
\end{array}
$$

$\therefore 117.6 \div 21 = 5.6$

(iv) We have:

$217.44 \div 18$

$$
\begin{array}{r}
12.08 \\
18\overline{)217.44} \\
-18 \\
\hline
37 \\
-36 \\
\hline
144 \\
-144 \\
\hline
\times
\end{array}
$$

$\therefore 217.44 \div 18 = 12.08$

(v) We have:

2.575 ÷ 25

$$
\begin{array}{r}
25\overline{)2.575(}\,0.103 \\
-0 \\
\hline
25 \\
-25 \\
\hline
\times 7 \\
-0 \\
\hline
75 \\
-75 \\
\hline
\times
\end{array}
$$

∴ 2.575 ÷ 25 = 0.103

(vi) We have:

6.08 ÷ 8

$$
\begin{array}{r}
8\overline{)6.08(}\,0.76 \\
-0 \\
\hline
60 \\
-56 \\
\hline
48 \\
-48 \\
\hline
\times
\end{array}
$$

∴ 6.08 ÷ 8 = 0.76

(vii) We have:

0.765 ÷ 9

$$
\begin{array}{r}
9\overline{)0.765(}\,0.085 \\
-0 \\
\hline
076 \\
-72 \\
\hline
45 \\
-45 \\
\hline
\times
\end{array}
$$

∴ 0.765 ÷ 9 = 0.085

(viii) We have:

0.768 ÷ 16

$$
\begin{array}{r}
16\overline{)0.768(}\,0.048 \\
-0 \\
\hline
\times 76 \\
-64 \\
\hline
128 \\
-128 \\
\hline
\times
\end{array}
$$

∴ 0.768 ÷ 16 = 0.048

(ix) We have:

0.175 ÷ 25

$$= \frac{0.175}{25}$$
$$= \frac{0.175 \times 1000}{25 \times 1000}$$
$$= \frac{175}{25 \times 1000}$$
$$= \frac{7}{1000}$$
$$= 0.007$$

(x) We have:

0.3322 ÷ 11

$$
\begin{array}{r}
11\overline{)0.3322(}\,0.0302 \\
-0 \\
\hline
\times 3 \\
-0 \\
\hline
33 \\
-33 \\
\hline
\times 2 \\
-0 \\
\hline
22 \\
-22 \\
\hline
\times
\end{array}
$$

∴ 0.3322 ÷ 11 = 0.0302

(xi) We have:

2.13 ÷ 15

$$
\begin{array}{r}
0.142 \\
15\overline{)2.130} \leftarrow \text{one zero annexed} \\
-0 \\
\hline
21 \\
-15 \\
\hline
63 \\
-60 \\
\hline
30 \\
-30 \\
\hline
\times
\end{array}
$$

∴ 2.13 ÷ 15 = 0.142

(xii) We have:

6.54 ÷ 12

$$
\begin{array}{r}
0.545 \\
12\overline{)6.540} \leftarrow \text{one zero annexed} \\
-0 \\
\hline
65 \\
-60 \\
\hline
54 \\
-48 \\
\hline
60 \\
-60 \\
\hline
\times
\end{array}
$$

∴ 6.54 ÷ 12 = 0.545

(xiii) We have:

5.52 ÷ 16

$$
\begin{array}{r}
0.345 \\
16\overline{)5.520} \leftarrow \text{one zero annexed} \\
-0 \\
\hline
55 \\
-48 \\
\hline
72 \\
-64 \\
\hline
80 \\
-80 \\
\hline
\times
\end{array}
$$

∴ 5.52 ÷ 16 = 0.345

(xiv) We have:

1.001 ÷ 14

$$
\begin{array}{r}
0.0715 \\
14\overline{)1.0010} \leftarrow \text{one zero annexed} \\
-0 \\
\hline
100 \\
-98 \\
\hline
21 \\
-14 \\
\hline
70 \\
-70 \\
\hline
\times
\end{array}
$$

∴ 1.001 ÷ 14 = 0.0715

(xv) We have:

0.477 ÷ 18

$$
\begin{array}{r}
0.0265 \\
18\overline{)0.4770} \leftarrow \text{one zero annexed} \\
-0 \\
\hline
\times 4 \\
-0 \\
\hline
47 \\
-36 \\
\hline
117 \\
-108 \\
\hline
90 \\
-90 \\
\hline
\times
\end{array}
$$

∴ 0.477 ÷ 18 = 0.0265

Q6

Answer :

(i) $16.46 \div 20 = \frac{16.46}{20} = \frac{16.46 \times 100}{20 \times 100} = \frac{1646}{2 \times 1000} = \frac{823}{1000} = 0.823$

(ii) $403.8 \div 30 = \frac{403.8}{30} = \frac{403.8 \times 10}{30 \times 10} = \frac{4038}{3 \times 100} = \frac{1346}{100} = 13.46$

(iii) $19.2 \div 80 = \frac{19.2}{80} = \frac{19.2 \times 10}{80 \times 10} = \frac{192}{800} = \frac{192}{8 \times 100} = \frac{24}{100} = 0.24$

(iv) $156.8 \div 200 = \frac{156.8}{200} = \frac{156.8 \times 10}{200 \times 10} = \frac{1568}{2000} = \frac{784}{1000} = 0.784$

(v) $12.8 \div 500 = \frac{12.8}{500} = \frac{12.8 \times 10}{500 \times 10} = \frac{128}{5000} = \frac{25.6}{1000} = 0.0256$

(vi) $18.08 \div 400 = \frac{18.08}{400} = \frac{18.08 \times 100}{400 \times 100} = \frac{1808}{40000} = \frac{452}{10000} = 0.0452$

Q7

Answer :

(i) $3.28 \div 0.8 = \frac{3.28}{0.8} = \frac{3.28 \times 10}{0.8 \times 10} = \frac{32.8}{8}$

Now, we have:

$$\begin{array}{r} 8\overline{)32.8}(4.1 \\ -32 \\ \hline \times 8 \\ -8 \\ \hline \times \end{array}$$

$\therefore \frac{3.28}{0.8} = \frac{32.8}{8} = 4.1$

(ii) $0.288 \div 0.9 = \frac{0.288}{0.9} = \frac{0.288 \times 10}{0.9 \times 10} = \frac{2.88}{9}$

Now, we have:

$$\begin{array}{r} 9\overline{)2.88}(0.32 \\ -0 \\ \hline 28 \\ -27 \\ \hline 18 \\ -18 \\ \hline \times \end{array}$$

$\therefore \frac{0.288}{0.9} = \frac{2.88}{9} = 0.32$

(iii) $25.395 \div 1.5 = \frac{25.395}{1.5} = \frac{25.395 \times 10}{1.5 \times 10} = \frac{253.95}{15}$

Now, we have:

$$\begin{array}{r} 15\overline{)253.95}(16.93 \\ -15 \\ \hline 103 \\ -90 \\ \hline 139 \\ -135 \\ \hline 45 \\ -45 \\ \hline \times \end{array}$$

$\therefore \frac{25.395}{1.5} = \frac{253.95}{15} = 16.93$

(iv) 2.0484 ÷ 0.18 = $\frac{2.0484}{0.18} = \frac{2.0484 \times 100}{0.18 \times 100} = \frac{204.84}{18}$

Now, we have:

$$\begin{array}{r} 18\overline{)204.84}(11.38 \\ -18 \\ \hline 24 \\ -18 \\ \hline 68 \\ -54 \\ \hline 144 \\ -144 \\ \hline \times \end{array}$$

$\therefore \frac{2.0484}{0.18} = \frac{204.84}{18} = 11.38$

(v) 0.228 ÷ 0.38 = $\frac{0.228}{0.38} = \frac{0.228 \times 100}{0.38 \times 100} = \frac{22.8}{38}$

Now, we have:

$$\begin{array}{r} 38\overline{)22.8}(0.6 \\ -0 \\ \hline 228 \\ -228 \\ \hline \times \end{array}$$

$\therefore \frac{0.228}{0.38} = \frac{22.8}{38} = 0.6$

(vi) 0.8085 ÷ 0.35 = $\frac{0.8085}{0.35} = \frac{0.8085 \times 100}{0.35 \times 100} = \frac{80.85}{35}$

Now, we have:

$$\begin{array}{r} 35\overline{)80.85}(2.31 \\ -70 \\ \hline 108 \\ -105 \\ \hline 35 \\ -35 \\ \hline \times \end{array}$$

$\therefore \frac{0.8085}{0.35} = \frac{80.85}{35} = 2.31$

(vii) 21.976 ÷ 1.64 = $\frac{21.976}{1.64} = \frac{21.976 \times 100}{1.64 \times 100} = \frac{2197.6}{164}$

Now, we have:

$$\begin{array}{r} 164\overline{)2197.6}(13.4 \\ -164 \\ \hline 557 \\ -492 \\ \hline 656 \\ -656 \\ \hline \times \end{array}$$

$\therefore \frac{21.976}{1.64} = \frac{2197.6}{164} = 13.4$

(viii) 11.04 ÷ 1.6 = $\frac{11.04}{1.6} = \frac{11.04 \times 10}{1.6 \times 10} = \frac{110.4}{16}$

Now, we have:

$$\begin{array}{r} 16\overline{)110.4}(6.9 \\ -96 \\ \hline 144 \\ -144 \\ \hline \times \end{array}$$

$\therefore \frac{11.04}{1.6} = \frac{110.4}{16} = 6.9$

(ix) 6.612 ÷ 11.6 = $\frac{6.612}{11.6} = \frac{6.612 \times 10}{11.6 \times 10} = \frac{66.12}{116}$

Now, we have:

$$\begin{array}{r} 116\overline{)66.12}(0.57 \\ -0 \\ \hline 661 \\ -580 \\ \hline 812 \\ -812 \\ \hline \times \end{array}$$

$\therefore \frac{6.612}{11.6} = \frac{66.12}{116} = 0.57$

(x) 0.076 ÷ 0.19 = $\frac{0.076}{0.19} = \frac{0.076\times100}{0.19\times100} = \frac{7.6}{19}$

Now, we have:

$$\begin{array}{r} 19\overline{)7.6}\,(0.4 \\ -0 \\ \hline 76 \\ -76 \\ \hline \times \end{array}$$

$\therefore \frac{0.076}{0.19} = \frac{7.6}{19} = 0.4$

(xi) 48 ÷ 0.074

$= \frac{148}{0.074}$
$= \frac{148\times1000}{0.074\times1000}$
$= \frac{148000}{74}$
$= 2 \times 1000$
$= 2000$

(xii) 16.578 ÷ 5.4 = $\frac{16.578}{5.4} = \frac{16.578\times10}{5.4\times10} = \frac{165.78}{54}$

Now, we have:

$$\begin{array}{r} 54\overline{)165.78}\,(3.07 \\ -162 \\ \hline 37 \\ -0 \\ \hline 378 \\ -378 \\ \hline \times \end{array}$$

$\therefore \frac{16.578}{5.4} = \frac{165.78}{54} = 3.07$

(xiii) 28 ÷ 0.56

$= \frac{28}{0.56}$
$= \frac{28\times100}{0.56\times100}$
$= \frac{2800}{56}$
$= \frac{1\times100}{2}$
$= 50$

(xv) 3 ÷ 80 = $\frac{3}{80}$

Now, we have:

$$\begin{array}{r} \quad 0.0375 \\ 80\overline{)30000} \leftarrow \text{four zero annexed} \\ -0 \\ \hline 30 \\ -0 \\ \hline 300 \\ -240 \\ \hline 600 \\ -560 \\ \hline 400 \\ -400 \\ \hline \times \end{array}$$

$\therefore \frac{3}{80}$ = 0.0375

Q9

Answer :

Cloth required for 1 shirt = 1.8 m

∴ Number of shirts that can be made from 45 m of cloth = $\frac{45}{1.8} = \frac{15}{0.6} = \frac{5}{0.2} = \frac{50}{2}$ = 25

Hence, 25 shirts can be made from a piece of cloth of length 45 m.

Q10

Answer :

Distance covered by the car with 2.4 litres of petrol = 22.8 km

∴ Distance covered with 1 litre of petrol = $\left(\frac{22.8}{2.4}\right)$ km

= $\left(\frac{228}{24}\right)$ km = $\left(\frac{228 \div 12}{24 \div 12}\right)$ km = $\left(\frac{19}{2}\right)$ km = $9\frac{1}{2}$ km

Hence, the distance covered by the car with 1 litre of petrol is $9\frac{1}{2}$ km.

Q11

Answer :

Capacity of 1 tin of oil = 16.5 litres

∴ Number of tins required to hold 478.5 litres of oil = $\left(\frac{478.5}{16.5}\right) = \left(\frac{4785}{165}\right) = \left(\frac{4785 \div 15}{165 \div 15}\right) = \frac{319}{11} = 29$

Hence, 29 oil tins will be required to hold 478.5 litres of oil.

Q12

Answer :

Weight of 37 bags of sugar = 3644.5 kg

∴ Weight of 1 bag of sugar = $\left(\frac{3644.5}{37}\right)$ = 98.5 kg

$$
\begin{array}{r|l}
37 & 3644.5 \\
-333 & \\
\hline
314 & \\
-296 & \\
\hline
185 & \\
-185 & \\
\hline
\times &
\end{array}
\quad 98.5
$$

Hence, each bag of sugar weighs 98.5 kg.

Q13

Answer :

Capacity of 69 buckets of water = 586.5 litres

∴ Capacity of one such bucket = $\left(\frac{586.5}{69}\right)$ litres = 8.5 litres.

$$
\begin{array}{r|l}
69 & 586.5 \\
-552 & \\
\hline
345 & \\
-345 & \\
\hline
\times &
\end{array}
\quad 8.5
$$

Hence, the capacity of each water bucket is 8.5 litres.

Q14

Answer :

Length of one piece of cloth = 1.15 m

∴ Number of pieces she gets from 46 m of cloth = $\left(\frac{46}{1.15}\right)$

= $\left(\frac{46 \times 100}{1.15 \times 100}\right) = \left(\frac{4600}{115}\right)$ = 40

Hence, Monica has 40 pieces of cloth each of length 1.15 m.

Q15

Answer :

Total weight of all the bags of cement = 1792.8 kg

Weight of each bag = 49.8 kg

Number of bags = $\left(\frac{\text{Total weight}}{\text{Weight of each bag}}\right)$

= $\left(\frac{1792.8}{49.8}\right) = \left(\frac{17928}{498}\right) = 36$

$$
\begin{array}{r|l}
498 & 17928 \\
-1494 & \\
\hline
2988 & \\
-2988 & \\
\hline
\times &
\end{array}
\quad 36
$$

Hence, Mr. Soni bought 36 bags of cement.

Q16

Answer :

Thickness of the pile of plywood pieces = 1.89 m = 189 cm

Thickness of one piece of plywood = 0.35 cm

∴ Required number of plywood pieces = $\left(\frac{189}{0.35}\right) = \left(\frac{189\times100}{0.35\times100}\right) = \left(\frac{18900}{35}\right) = 540$

$$
\begin{array}{r}
35\overline{)18900}\,(540 \\
-175 \\
\hline
140 \\
-140 \\
\hline
0000 \\
-0000 \\
\hline
\times
\end{array}
$$

Hence, 540 pieces of plywood are required to make a pile of height 1.89 m.

Q17

Answer :

Product of the given decimals = 261.36

One decimal = 17.6

The other decimal = 261.36 ÷ 17.6

$= \left(\frac{261.36}{17.6}\right) = \left(\frac{261.36\times10}{17.6\times10}\right) = \left(\frac{2613.6}{176}\right)$

= 14.85

$$
\begin{array}{r}
176\overline{)2613.6}\,(14.85 \\
-176 \\
\hline
853 \\
-704 \\
\hline
1496 \\
-1408 \\
\hline
880 \\
-880 \\
\hline
\times
\end{array}
$$

Hence, the other decimal is 14.85.

Decimals
Exercise 3E

Q1

Answer :

(b) $\frac{3}{50}$

0.06 = $\frac{6}{100} = \frac{3}{50}$

Q2

Answer :

(c) $1\frac{1}{25}$

1.04 = $\frac{104}{100} = \frac{26}{25} = 1\frac{1}{25}$

Q3

Answer :

(b) 2.08

$2\frac{2}{25} = \frac{52}{25}$

On dividing, we get:

$$\begin{array}{r} 25\overline{)52\,(2.08} \\ \underline{-50} \\ 200 \\ \underline{-200} \\ \times \end{array}$$

$\therefore 2\frac{2}{25} = \frac{52}{25}$ = 2.08

Q4

Answer :

(c) 0.00006 km

6 cm = $\frac{6}{100}$ m = 0.06 m

0.06 m = $\frac{0.06}{1000}$ km = 0.00006 km

∴ 6 cm = 0.00006 km

Q5

Answer :

(b) 0.07 kg

70 g = $\frac{70}{1000}$ kg = $\frac{7}{100}$ kg

= 0.07 kg

∴ 70 g = 0.07 kg

Q6

Answer :

(c) 5.006 kg

5 kg 6 g = (5 × 1000) g + 6 g = 5006 g

= $\frac{5006}{1000}$ kg = 5.006 kg

∴ 5 kg 6 g = 5.006 kg

Q7

Answer :

(c) 2.005 km

2 km 5 m = (2 × 1000) m + 5 m = 2005 m

= $\frac{2005}{1000}$ km = 2.005 km

∴ 2 km 5 m = 2.005 km

Q8

Answer :

(c) 0.307

Converting the given decimals into like decimals, we get:
1.007 and 0.700
Writing them in column form with the larger one at the top and subtracting, we get:

$$\begin{array}{r} 1.007 \\ -0.700 \\ \hline 0.307 \end{array}$$

Hence, the required number is 0.307.

Q9

Answer :

(b) .07

We have:
$0.1 - x = 0.03$
$\Rightarrow x = 0.1 - 0.03$

Converting the given decimals into like decimals, we get:
0.10 and 0.03

Writing them in column form with the larger one at the top and subtracting, we get:

$$\begin{array}{r} 0.10 \\ -0.03 \\ \hline 0.07 \end{array}$$

$\therefore x = 0.07$
Hence, the required number is 0.07.

Q10

Answer :

(c) .43
We have:
$3.07 + x = 3.5$
$\Rightarrow x = 3.5 - 3.07$
Converting the given decimals into like decimals, we get:
3.07 and 3.50
Writing them in column form with the larger one at the top and subtracting, we get:

$$\begin{array}{r} 3.50 \\ -3.07 \\ \hline 0.43 \end{array}$$

$\therefore x = 0.43$

Hence, 0.43 should be added to 3.07 to get 3.5.

Q11

Answer :

(c) 0.069
First, we will multiply 23 by 3.
i.e., $23 \times 3 = 69$
Sum of decimal places in the given decimals = (2 + 1) = 3
$\therefore 0.23 \times 0.3 = 0.069$ (3 places of decimal)

Q12

Answer :

(b) 0.6
We have:
$2 \times 30 = 60$
$\therefore 0.02 \times 30 = 0.60$ (2 places of decimal)
$= 0.6$

Q13

Answer :

(b) 0.2
First, we will multiply 25 by 8.
$\therefore 25 \times 8 = 200$
Sum of decimal places in the given decimals = (2 + 1) = 3
$\therefore 0.25 \times 0.8 = 0.200$ [3 places of decimal]
$= 0.2$

Q14

Answer :

(c) .064

First, we will find the product $4 \times 4 \times 4 = 64$
Sum of decimal places in the given decimals = (1 + 1 + 1) = 3
$\therefore 0.4 \times 0.4 \times 0.4 = 0.064$ (3 places of decimal)

Q15

Answer :

(b) .0011

First, we will find the product 11 × 1 × 1.
Sum of decimal places in the given decimals = (1 + 1 + 2) = 4
∴ 1.1 × 0.1 × 0.01 = 0.0011 (4 places of decimal)

Q16

Answer :

(a) 13

$2.08 \div 0.16 = \frac{2.08}{0.16} = \frac{2.08 \times 100}{0.16 \times 100} = \frac{208}{16} = 13$

Q17

Answer :

(b) 0.17

$1.02 \div 6 = \frac{1.02}{6} = \frac{1.02 \times 100}{6 \times 100} = \frac{102}{6 \times 100} = \frac{17}{100} = 0.17$

Q18

Answer :

(a) 44.2

$30.94 \div 0.7 = \frac{30.94}{0.7} = \frac{30.94 \times 100}{0.7 \times 100} = \frac{3094}{70} = 44.2$

Q19

Answer :

(b) 2.1

$2.73 \div 1.3 = \frac{2.73}{1.3} = \frac{2.73 \times 100}{1.3 \times 100} = \frac{273}{13 \times 10} = \frac{21}{10} = 2.1$

Q20

Answer :

(a) 40.5

$89.1 \div 2.2 = \frac{89.1}{2.2} = \frac{89.1 \times 10}{2.2 \times 10} = \frac{891}{22} = 40.5$

Q21

Answer :

(c) 0.025
First, we will multiply 5 by 5.
i.e., 5 × 5 = 25
Sum of decimal places in the given decimals = (1 + 2) = 3
∴ 0.5 × 0.05 = 0.025 (3 places of decimal)