

Chapter 1

Number System

Ex 1.1

Question 1.

Round each of the following decimals to the nearest whole number.

- (i) 8.71
- (ii) 26.01
- (iii) 69.48
- (iv) 103.72
- (v) 49.84
- (vi) 101.35
- (vii) 39.814
- (viii) 1.23

Solution.

- (i) 8.71

Underlining the digit to be rounded 8.71. Since the digit next to the underlined digit, 7 which is greater than 5, adding 1 to the underlined digit. Hence the nearest whole number 8.71 rounds to is 9.

- (ii) 26.01

Underlining the digit to be rounded 26.01. Since the digit next to the underlined digit, 0 which is less than 5, the underlined digit 6 remains the same.

∴ The nearest whole number 26.01 rounds to is 26.

- (iii) 69.48

Underlining the digit to be rounded 69.48. Since the digit next to the underlined digit, 4 which is less than 5, the underlined digit 9 remains the same.

∴ The whole number is 69.48 rounds to is 69.

- (iv) 103.72

Underlining the digit to be rounded 103.72 since the digit next to the underlined digit, 7 which is greater than 5, we add 1 to the under lined digit. Hence the nearest whole number 103.72 rounds to is 104.

- (v) 49.84

Underlining the digit to be rounded 49.84. Since the digit next to the

underlined digit 8 which is greater than 5, we add 1 to the underlined digit. Hence the nearest whole number 49.84 rounds to 50.

(vi) 101.35

Underlining the digit to be rounded 101.35. Since the digit next to the underlined digit 3 is less than 5, the underlined digit 1 remains the same. Hence the nearest whole number 101.35 rounds to is 101.

(vii) 39.814

Underlining the digit to be rounded 398.14. Since the digit next to the underlined digit 8 is greater than 5, we add 1 to the underlined digit. Hence the nearest whole number 39.814 rounds to is 40.

(viii) 1.23

Underlining the digit to be rounded 1.23. Since the digit next to the underlined digit 2, is less than 5, the underlined digit 1 remains the same. Hence the nearest whole number 1.23 rounds to is 1.

Question 2.

Round each decimal number to the given place value.

(i) 5.992; tenths place

(ii) 21.805; hundredth place

(iii) 35.0014; thousandth place

Solution:

(i) 992; tenths place

Underlining the digit to be rounded 5.992. Since the digit next to the underlined digit is 9 greater than 5, we add 1 to the underlined digit. Hence the rounded number is 6.0.

(ii) 21.805; hundredth place

Underlining the digit to be rounded 21.805 since the digit next to the underlined digit is 5, we add 1 to the underlined digit. Hence the rounded number is 21.81.

(iii) 35.0014; thousandth place

Underlining the digit to be rounded 35.0014. Since the digit next to the underlined digit is 4 less than 5 the underlined digit remains the same. Hence the rounded number is 35.001.

Question 3.

Round the following decimal numbers upto 1 places of decimal.

(i) 123.37

(ii) 19.99

(iii) 910.546

Solution:

(i) 123.37

Rounding 123.37 upto one places of decimal means round to the nearest tenths place. Underling the digit in the tenths place of 123.37 gives 123.37. Since the digit next to the tenth place value is 7 which is greater than 5, we add 1 to the underlined digit to get 123.4. Hence the rounded value of 123.37 upto one places of decimal is 123.4.

(ii) 19.99

Rounding 19.99 upto one places of decimal means round to the nearest tenth place. Underling the digit in the tenths place of 19.99 gives 19.99. Since the digit next to the tenth place value is 9 which is greater than 5, we add 1 to the underlined digit to get 20.

Hence the rounded value of 19.99 upto one places of decimal is 20.0.

(iii) 910.546

Rounding 910.546 upto one places of decimal means round to the nearest tenths place underlining the digit in the tenths place of 910.546 gives 910.546. Since the digit next to the tenth place value is 4, which is less than 5 the underlined digit remains the same. Hence the rounded value of 910.546 upto one places of decimal is 910.5.

Question 4.

Round the following decimal numbers upto 2 places of decimal.

(i) 87.755

(ii) 301.513

(iii) 79.997

Solution:

(i) 87.755

Rounding 87.755 upto 2 places of decimal means round to the nearest hundredths place. Underlining the digit in the hundredth place of 87.755 gives 87.755. Since the digit next to the hundredth place value is 5, we add 1 to the underlined digit.

Hence the rounded value of 87.755 upto two places of decimal is 87.76.

(ii) 301.513

Rounding 301.51 upto 2 places of decimal means round to the nearest hundredths place. Underlining the digit in the hundredth place of 301.513 gives 301.513. Since the digit next to the underlined digit 3 is less than 5, the underlined digit remains the same.

∴ The rounded value of 301.513 upto 2 places of decimal is 301.51.

(iii) 79.997

Rounding 79.997 upto 2 places of decimal means round to the nearest hundredths place. Underlining the digit in the hundredth place of 79.997 gives 79.997. Since the digit next to the underlined digit 7 is greater than 5, we add 1 to the underlined number.

Hence the rounded value of 79.997 upto 2 places of decimal is 80.00.

Question 5.

Round the following decimal numbers upto 3 place of decimal

(a) 24.4003

(b) 1251.2345

(c) 61.00203

Solution:

(a) 24.4003

Rounding 24.4003 upto 3 places of decimal means rounding to the nearest thousandths place. Underlining the digit in the thousandths place of 24.4003 gives 24.4003. In 24.4003 the digit next to the thousandths value is 3 which is less than 5.

∴ The underlined digit remains the same. So the rounded value of 24.4003 upto 3 places of decimal is 24.400.

(b) 1251.2345

Rounding 1251.2345 upto 3 places of decimal means rounding to the nearest thousandths place. Underlining the digit in the thousandths place of 1251.2345 gives 1251.2345, the digit next to the thousandths place value is 5 and so we add 1 to the underlined digit. So the rounded value of 1251.2345 upto 3 places of decimal is 1251.235.

(c) 61.00203

Rounding 61.00203 upto 3 places of decimal means rounding to the nearest thousandths place. Underlining the digit in the thousandth place of 61.00203 gives 61.00203. In 61.00203, the digit next to the thousandths place value is 0, which is less than 5.

Hence the underlined digit remains the same. So the rounded value of 61.00203 upto 3 places of decimal is 61.002.

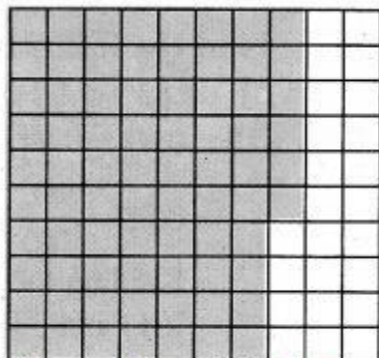
Ex 1.2

Question 1.

Add by using grid $0.51 + 0.25$.

Solution:

Here $0.51 = 51100$ and $0.25 = 25100$



First we shade the region 0.51 and then 0.25.

The sum is the total shaded area. $0.51 + 0.25 = 0.76$

Question 2.

Add the following by using place value grid.

(i) $25.8 + 18.53$

(ii) $17.4 + 23.435$

Solution:

(i) $25.8 + 18.53$.

Using place value grid.

Decimal No	Tens	Ones	Tenths	Hundredths
25.8	2	5	8	0
18.53	1	8	5	3
44.33	4	4	3	3

Therefore $25.8 + 18.53 = 44.33$

(ii) $17.4 + 23.435$

Lets use the place value grid.

Decimal No	Tens	Ones	Tenths	Hundredths	Thousandths
17.4	1	7	4	0	0
23.435	2	3	4	3	5
40.835	4	0	8	3	5

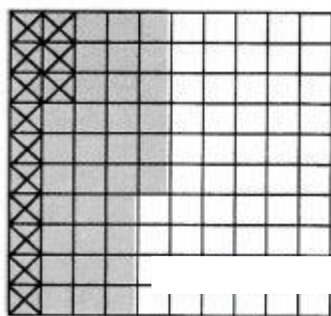
Therefore $17.4 + 23.435 = 40.835$

Question 3.

Find the value of $0.46 - 0.13$ by grid model.

Solution:

Here $0.46 = 46/100$ and $0.13 = 13/100$



Shading the region 0.46 and then crossing out 0.13 from the shaded area. The left out shaded region without cross marks is the difference. So $0.46 - 0.13 = 0.33$

Question 4.

Subtract the following by using place value grid, (i) 6.567 from 9.231 (ii) 3.235 from 7

Solution:

(i) Let us use place value grid

Decimal No	Ones	Tenths	Hundredths	Thousandths
9.231	9	2	3	1
6.567	6	5	6	7
2.664	2	6	6	4

Therefore $9.231 - 6.567 = 2.664$

(ii) Let us use place value grid.

Decimal No	Ones	Tenths	Hundredths	Thousandths
7.000	7	0	0	0
3.235	3	2	3	5
3.765	3	7	6	5

Therefore $7 - 3.235 = 3.765$

Question 5.

Simplify: $23.5 - 27.89 + 35.4 - 17$.

Solution:

$$23.5 - 27.89 + 35.4 - 17 = 14.01$$

	23.50
(+)	35.40
	58.90
(-)	27.89
	31.01
(-)	17.00
	14.01

Question 6.

Sulaiman bought 3.350 kg of Potato, 2.250 kg of Tomato and some onions. If the weight of the total items are 10.250 kg, then find the weight of onions?

Solution:

Weight of Potato = 3.350 kg

Weight of Tomato = 2.250 kg

Total weight of Potato and Tomato = (3.350 + 2.250 kg)
= 5.600 kg

Weight of potato, tomato and onions = 10.250

Weight of potato and tomato = 5.600

∴ Weight of onions = (10.250 - 5.600) Kg = 4.650 Kg

Weight of onions = 4.650 Kg

Question 7.

What should be subtracted from 7.1 to get 0.713?

Solution:

To get the number to be subtracted

	7.100
(-)	0.713
	6.387

We have $7.1 - 0.713 = 6.387$

∴ The number to be subtracted = 6.387

Question 8.

How much is 35.6 km less than 53.7 km?

Solution:

To get the answer we must subtract $53.7\text{km} - 35.6\text{ km} = 18.1\text{ km}$

	53.7
(-)	35.6
	18.1

So 35.6 km is 18.1 km less than 53.7 km.

Question 9.

Akilan purchased a geometry box for ₹ 25.75, a pencil for ₹ 3.75 and a pen for ₹ 17.90. He gave ₹ 50 to the shopkeeper. What amount did he get back?

Solution:

Cost of geometry box = ₹ 25.75 (+)

Cost of Pencil box = ₹ 3.75

Cost of a pen	=	₹ 17.90
Amount to be paid	=	₹ 47.40
Amount paid	=	₹ 50.00 (-)
Amount to be paid	=	₹ 47.40
Amount to get back	=	₹ 2.60
∴ Amount to get back	=	₹ 2.60

Question 10.

Find the perimeter of an equilateral triangle with a side measuring 3.8 cm.

Solution:

Perimeter of an equilateral triangle = (Side + Side + Side) Sq. units.

	3.8
(+)	3.8
(+)	3.8
	11.4

Given side = 3.8

∴ Perimeter = 3.8 + 3.8 + 3.8

Perimeter of the triangle = 11.4 cm

Objective Type Questions

Question 1.

$1.0 + 0.83 = ?$

- (i) 0.17
- (ii) 0.71
- (iii) 1.83

(iv) 1.38

Answer:

Hint :

$$\begin{array}{r} 1.0 \\ (+) \quad 0.83 \\ \hline 1.83 \end{array}$$

(iii) 1.83

Question 2.

$$7.0 - 2.83 = ?$$

(i) 3.47

(ii) 4.17

(iii) 7.34

(iv) 4.73

Answer:

Hint :

$$\begin{array}{r} 6 \ 9 \ 10 \\ 7.00 \\ (-) \quad 2.83 \\ \hline 4.17 \end{array}$$

(ii) 4.17

Question 3.

Subtract 1.35 from 3.51

(i) 6.21

(ii) 4.86

(iii) 8.64

(iv) 2.16

Answer:

Hint :

$$\begin{array}{r} 6 \ 9 \ 10 \\ 7.00 \\ (-) \quad 2.83 \\ \hline 4.17 \end{array}$$

(iv) 2.16

Question 4.

Sum of two decimals is 4.78 and one decimal is 3.21 then the other one is

(i) 1.57

(ii) 1.75

(iii) 1.59

(iv) 1.58

Answer:

Hint :

$$\begin{array}{r} 4.78 \\ (-) \underline{3.21} \\ 1.57 \end{array}$$

(i) 1.57

Question 15.

The difference of two decimals is 86.58 and one of the decimal is 42.31 Find the other one

(i) 128.89

(ii) 128.69

(iii) 128.36

(iv) 128.39

Answer:

Hint :

$$\begin{array}{r} 86.58 \\ (+) \underline{42.31} \\ 128.89 \end{array}$$

(i) 128.89

Ex 1.3

Question 1.

Find the product of the following

(i) 0.5×3

(ii) 3.75×6

(iii) 50.2×4

(iv) 0.03×9

(v) 453.03×7

(vi) 4×0.7

Solution:

(i) 0.5×3

$$5 \times 3 = 15$$

$$\therefore 0.5 \times 3 = 1.5$$

(ii) 3.75×6

3.75	2 decimal places
$\times 6$	
<u>22.50</u>	2 decimal places

$$375 \times 6 = 2250$$

$$3.75 \times 6 = 22.50$$

(iii) 50.2×4

50.2	1 decimal place
$\times 4$	
<u>200.8</u>	1 decimal place

$$502 \times 4 = 2008$$

$$50.2 \times 4 = 200.8$$

(iv) 0.03×9

$$3 \times 9 = 27$$

$$0.03 \times 9 = 0.27$$

(v) 453.03×7

453.03	2 decimal places
$\times 7$	
<u>3171.21</u>	2 decimal places

$$45303 \times 7 = 317121$$

$$453.03 \times 7 = 3171.21$$

(vi) 4×0.7

$$4 \times 7 = 28$$

$$4 \times 0.7 = 2.8$$

Question 2.

Find the area of the parallelogram whose base is 6.8 cm and height is 3.5 cm.

Solution:

6.8	1 decimal place
$\times 3.5$	1 decimal place
<u>340</u>	
<u>2040</u>	
<u>23.80</u>	2 decimal places

Base of the parallelogram $b = 6.8$ cm

Height of the parallelogram $h = 3.5$ cm

Area of the parallelogram $A = b \times h$ sq.units $= 6.8 \times 3.5$ cm²

Area of the parallelogram $= 23.80$ cm²

Question 3.

Find the area of the rectangle whose length is 23.7 cm and breadth is 15.2 cm.

Solution:

23.7	1 decimal place
$\times 15.2$	1 decimal place
<hr/>	
474	
11850	
12700	
<hr/>	
360.24	2 decimal places

Length of the rectangle $l = 23.7$ cm

Breadth of the rectangle $b = 15.2$ cm

Area of the rectangle $A = l \times b$ sq.units

$= 23.7 \times 15.2$ cm²

Area of the rectangle $= 360.24$ cm²

Question 4.

Multiply the following

1. 2.57×10
2. 0.51×10
3. 125.367×100
4. 34.51×100
5. 62.735×100
6. 0.7×10
7. 0.03×100
8. 0.4×1000

Solution:

1. $2.57 \times 10 = 25.7$
2. $0.51 \times 10 = 5.1$
3. $125.367 \times 100 = 12536.7$
4. $34.51 \times 100 = 3451$
5. $62.735 \times 100 = 6273.5$
6. $0.7 \times 10 = 7.0$
7. $0.03 \times 100 = 3$
8. $0.4 \times 1000 = 400$

Question 5.

A wheel of a baby cycle covers 49.7 cm in one rotation. Find the distance covered in 10 rotations.

Solution:

Length covered in 1 rotation = 49.7 cm

Length covered in 10 rotations = 49.7×10 cm = 497 cm

Question 6.

A picture chart costs ₹ 1.50. Radha wants to buy 20 charts to make an album. How much does she have to pay?

Solution:

1.50
$\times 20$
<hr/>
30.00

Cost of 1 chart = ₹ 1.50

Cost of 20 charts = ₹ 1.50×20 = ₹ 30.00

Cost of 20 charts = ₹ 30

Question 7.

Find the product of the following.

(i) 3.6×0.3

(ii) 52.3×0.1

(iii) 537.4×0.2

(iv) 0.6×0.06

(v) 62.2×0.23

(vi) 1.02×0.05

(vii) 10.05×1.05

(viii) 101.01×0.01

(ix) 100.01×1.1

Solution:

(i) 3.6×0.3

3.6	1 decimal place
$\times 0.3$	1 decimal place
<hr/>	
1.08	2 decimal places

$36 \times 3 = 108$

$3.6 \times 0.3 = 1.08$

(ii) 52.3×0.1

$523 \times 1 = 523$

$52.3 \times 0.1 = 5.23$

(iii) 537.4×0.2

537.4	1 decimal place
$\times 0.2$	1 decimal place
107.48	2 decimal places

$5374 \times 2 = 10748$

$537.4 \times 0.2 = 107.48$

(iv) 0.6×0.06

$6 \times 6 = 36$

$0.6 \times 0.06 = 0.036$

(v) 62.2×0.23

62.2	1 decimal place
$\times 0.23$	2 decimal places
1866	
12440	
14.306	3 decimal places

$622 \times 23 = 14306$

$62.2 \times 0.23 = 14.306$

(vi) 1.02×0.05

$102 \times 5 = 510$

$1.02 \times 0.05 = 0.0510$

(vii) 10.05×1.05

10.05	2 decimal places
$\times 1.05$	2 decimal places
5025	
00000	
100500	
10.5525	4 decimal places

$1005 \times 105 = 105525$

$10.05 \times 1.05 = 10.5525$

(viii) 101.01×0.01
 $10101 \times 1 = 10101$
 $101.01 \times 0.01 = 1.0101$

(ix) 100.01×1.1
 $1001 \times 11 = 110011$
 $100.01 \times 1.1 = 110.011$

Objective Type Questions

Question 1.

1.07×0.1 _____

- (i) 1.070
- (ii) 0.107
- (iii) 10.70
- (iv) 11.07

Answer:

- (ii) 0.107

Hint:

$107 \times 1 = 107$

$1.07 \times 0.1 = 0.107$

Question 2.

$2.08 \times 10 =$ _____

- (i) 20.8
- (ii) 208.0
- (iii) 0.208
- (iv) 280.0

Answer:

- (i) 20.8

Hint:

$208 \times 10 = 2080$

$2.08 \times 10 = 20.80 = 20.8$

Question 3.

A frog jumps 5.3 cm in one jump. The distance travelled by the frog in 10 jumps is _____

- (i) 0.53 cm
- (ii) 530 cm
- (iii) 53.0 cm
- (iv) 53.5 cm

Answer:

(iii) 53.0 cm

Hint:

$$53 \times 10 = 530$$

$$5.3 \times 10 = 53.0$$

Ex 1.4

Question 1.

Simplify the following

(i) $0.6 \div 3$

(ii) $0.90 \div 5$

(iii) $4.08 \div 4$

(iv) $21.56 \div 7$

(v) $0.564 \div 6$

(vi) $41.36 \div 4$

(vii) $298.2 \div 3$

Solution:

(i) $0.6 \div 3$

$$= 610 \times 13$$

$$= 63 \times 110$$

$$= 2 \times 110$$

$$= 210$$

$$= 0.2$$

(ii) $0.90 \div 5$

$$= 90100 \times 15$$

$$= 905 \times 1100$$

$$= 18 \times 1100 = 18100$$

$$= 0.18$$

(iii) $4.08 \div 4$

$$= 408100 \times 14$$

$$= 4084 \times 1100$$

$$= 102 \times 1100$$

$$= 102100$$

$$= 1.02$$

(iv) $21.56 \div 7$

$$= 2156100 \times 17$$

$$= 21567 \times 1100$$

$$= 308 \times 1100$$

$$= 308100$$

$$= 3.08$$

$$(v) 0.564 \div 6$$

$$= 5641000 \times 16$$

$$= 5646 \times 11000$$

$$= 941000$$

$$= 0.094$$

$$(vi) 41.36 \div 4$$

$$= 4136100 \times 14$$

$$= 41364 \times 1100$$

$$= 1034100$$

$$= 10.34$$

$$(vii) 298.2 \div 3$$

$$= 298210 \times 13$$

$$= 29823 \times 110$$

$$= 99410$$

$$= 99.4$$

Question 2.
Simplify the following.

- (i) $5.7 \div 10$
- (ii) $93.7 \div 10$
- (iii) $0.9 \div 10$
- (iv) $301.301 \div 10$
- (v) $0.83 \div 10$
- (vi) $0.062 \div 10$

Solution:

$$(i) 5.7 \div 10$$

$$= 5710 \times 110$$

$$= 57100$$

$$= 0.57$$

$$(ii) 93.7 \div 10$$

$$= 93710 \times 110$$

$$= 937100$$

$$= 9.37$$

$$(iii) 0.9 \div 10$$

$$= 910 \times 110$$

$$= 9100$$

$$= 0.09$$

$$(iv) 301.301 \div 10$$

$$= 3013011000 \times 110$$

$$= 30130110000$$

$$= 30.1301$$

$$(v) 0.83 \div 10$$

$$= 83100 \times 110$$

$$= 831000$$

$$= 0.083$$

$$(vi) 0.062 \div 10$$

$$= 621000 \times 110$$

$$= 621000$$

$$= 0.0062$$

Question 3.

Simplify the following.

$$(i) 0.7 \div 100$$

$$(ii) 3.8 \div 100$$

$$(iii) 49.3 \div 100$$

$$(iv) 463.85 \div 100$$

$$(v) 0.3 \div 100$$

$$(vi) 27.4 \div 100$$

Solution:

$$(i) 0.7 \div 100$$

$$= 710 \times 1100$$

$$= 71000$$

$$= 0.007$$

$$(ii) 3.8 \div 100$$

$$= 3810 \times 1100$$

$$= 381000$$

$$= 0.038$$

$$(iii) 49.3 \div 100$$

$$= 49310 \times 1100$$

$$= 4931000$$

$$= 0.493$$

$$\begin{aligned}
 &(\text{iv}) 463.85 \div 100 \\
 &= 46385100 \times 1100 \\
 &= 463851000 \\
 &= 4.6385
 \end{aligned}$$

$$\begin{aligned}
 &(\text{v}) 0.3 \div 100 \\
 &= 310 \times 1100 \\
 &= 31000 \\
 &= 4.6385
 \end{aligned}$$

$$\begin{aligned}
 &(\text{vi}) 27.4 \div 100 \\
 &= 27410 \times 1100 \\
 &= 2741000 \\
 &= 0.274
 \end{aligned}$$

Question 4.
Simplify the following.

- (i) $18.9 \div 1000$
- (ii) $0.87 \div 1000$
- (iii) $49.3 \div 1000$
- (iv) $0.3 \div 1000$
- (v) $382.4 \div 1000$
- (vi) $93.8 \div 1000$

Solution:

$$\begin{aligned}
 &(\text{i}) 18.9 \div 1000 \\
 &= 18910 \times 11000 \\
 &= 18910000 \\
 &= 0.0189
 \end{aligned}$$

$$\begin{aligned}
 &(\text{ii}) 0.87 \div 1000 \\
 &= 87100 \times 11000 \\
 &= 87100000 \\
 &= 0.00087
 \end{aligned}$$

$$\begin{aligned}
 &(\text{iii}) 49.3 \div 1000 \\
 &= 49310 \times 1100 \\
 &= 4931000 \\
 &= 0.493
 \end{aligned}$$

$$\begin{aligned}
 &(\text{iv}) 0.3 \div 1000 \\
 &= 310 \times 11000 \\
 &= 310000 \\
 &= 0.0003
 \end{aligned}$$

$$\begin{aligned}
 & \text{(v) } 382.4 \div 1000 \\
 & = 382410 \times 11000 \\
 & = 382410000 \\
 & = 0.3824
 \end{aligned}$$

$$\begin{aligned}
 & \text{(vi) } 93.8 \div 1000 \\
 & = 93810 \times 11000 \\
 & = 93810000 \\
 & = 0.0938
 \end{aligned}$$

Question 5.

Simplify the following.

- (i) $19.2 \div 2.4$
- (ii) $4.95 \div 0.5$
- (iii) $19.11 \div 1.3$
- (iv) $0.399 \div 2.1$
- (v) $5.4 \div 0.6$
- (vi) $2.197 \div 1.3$

Solution:

(i) $19.2 \div 2.4$

$$19.2 \div 2.4 = \frac{\left(\frac{192}{10}\right)}{\left(\frac{24}{10}\right)} = \frac{192}{10} \times \frac{10}{24} = \frac{192}{24} = 8$$

(ii) $4.95 \div 0.5$

$$4.95 \div 0.5 = \frac{\left(\frac{495}{100}\right)}{\left(\frac{5}{10}\right)} = \frac{495}{100} \times \frac{10}{5} = \frac{495}{5} \times \frac{10}{100} = 99 \times \frac{1}{10} = \frac{99}{10} = 9.9$$

(iii) $19.11 \div 1.3$

$$\begin{aligned}
 19.11 \div 1.3 &= \frac{\left(\frac{19 \times 11}{100}\right)}{\left(\frac{13}{10}\right)} = \frac{1911}{100} \times \frac{10}{13} \\
 &= \frac{1911}{13} \times \frac{10}{100} = 147 \times \frac{1}{10} = \frac{147}{10} = 14.7
 \end{aligned}$$

(iv) $0.399 \div 2.1$

$$\begin{aligned} 0.399 \div 2.1 &= \frac{\left(\frac{399}{1000}\right)}{\frac{21}{10}} = \frac{399}{1000} \times \frac{10}{21} \\ &= \frac{399}{21} \times \frac{10}{1000} \\ &= 19 \times \frac{1}{100} = \frac{19}{100} = 0.19 \end{aligned}$$

$$\begin{array}{r} 19 \\ 21 \overline{) 399} \\ \underline{21} \\ 189 \\ \underline{189} \\ 0 \end{array}$$

(v) $5.4 \div 0.6$

$$\begin{aligned} 5.4 \div 0.6 &= \frac{\left(\frac{54}{10}\right)}{\left(\frac{6}{10}\right)} = \frac{54}{10} \times \frac{10}{6} \\ &= \frac{54}{6} = 9 \end{aligned}$$

(vi) $2.197 \div 1.3$

$$\begin{aligned} 2.197 \div 1.3 &= \frac{\left(\frac{2197}{1000}\right)}{\left(\frac{13}{10}\right)} = \frac{2197}{1000} \times \frac{10}{13} \\ &= 169 \times \frac{1}{100} \\ &= \frac{169}{100} = 1.69 \end{aligned}$$

$$\begin{array}{r} 169 \\ 13 \overline{) 2197} \\ \underline{13} \\ 89 \\ \underline{78} \\ 117 \\ \underline{117} \\ 0 \end{array}$$

Question 6.

Divide 9.55 kg of sweet among 5 children. How much will each child get?

Solution:

Weight of the sweet = 9.55 Kg

Weight of sweet for 5 children = 955100 Kg

Weight of sweet for 1 child = $(955100)5 = 955100 \times 15 = 9555 \times 1100$
 $= 191100 = 1.91$

Each child will get 1.91 kg sweet.

Question 7.

A vehicle covers a distance of 76.8 km for 1.2 litre of petrol. How much distance will it cover for one litre of petrol?

Solution:

For 1.2 litre of petrol the distance covered = 76.8 Km = $\frac{768}{10}$ Km

$$\begin{aligned}\therefore \text{For 1 litre of petrol distance covered} &= \frac{\left(\frac{768}{10}\right)}{1.2} \text{ km} \\ &= \frac{\left(\frac{768}{10}\right)}{\left(\frac{12}{10}\right)} = \frac{768}{10} \times \frac{10}{12} \\ &= \frac{768}{12} \times \frac{10}{10} = 64 \text{ km}\end{aligned}$$

For 1 litre of petrol distance covered = 64 Km

Question 8.

Cost of levelling a land at the rate of ₹ 15.50 sq. ft is ₹ 10,075. Find the area of the land.

Solution:

Cost of levelling the entire land = ₹ 10,075

Cost of levelling 1 sq. ft = ₹ 15.50

$$\begin{aligned}\therefore \text{Area of the land} &= \frac{\text{Cost of levelling entire land}}{\text{Cost of levelling 1 sq. ft.}} \\ &= \frac{10075}{15.50} \times \frac{100}{100} = \frac{10075 \times 100}{15.50 \times 100} = \frac{1007500}{1550} \\ &= \frac{100750}{155} = 650\end{aligned}$$

$$\begin{array}{r} 20150 \overset{650}{} \\ \underline{100750} \\ 155 \cancel{11} \end{array}$$

\therefore Area of the land = 650 sq.ft.

Question 9.

The cost of 28 books are ₹ 1506.4. Find the cost of one book.

Solution:

Cost of 28 books = ₹ 1506.4

$$\begin{aligned}\text{Cost of 1 book} &= \frac{1506.4}{28} = \frac{\frac{15064}{10}}{28} = \frac{15064}{10} \times \frac{1}{28} \\ &= \frac{15064}{28} \times \frac{1}{10} = 538 \times \frac{1}{10} = \frac{538}{10} = ₹ 53.80\end{aligned}$$

$$\begin{array}{r} 15064 \overset{538}{} \\ \underline{28 \cancel{11}} \end{array}$$

Cost of 1 book = ₹ 53.80

Question 10.

The product of two numbers is 40.376. One number is 14.42. Find the other number.

Product of two numbers = 40.376

One number = 14.42

$$\begin{aligned}\text{Another number} &= \frac{40.376}{14.42} = \frac{\frac{40376}{1000}}{\frac{1442}{100}} \\&= \frac{40376}{1000} \times \frac{100}{1442} = \frac{40376}{1442} \times \frac{100}{1000} \\&= 28 \times \frac{1}{10} = \frac{28}{10} = 2.8 \\ \text{Other number} &= 2.8\end{aligned}$$

28
2884
20188
40376
<hr/>
1442
721
103
1

Objective Type Questions

Question 1.

$5.6 \div 0.5 = ?$

- (i) 11.4
- (ii) 10.4
- (iii) 0.14
- (iv) 11.2

Answer:

- (iv) 11.2

Hint:

$5.60.5 = 565$

$$= 11.2$$

$$\begin{array}{r} 11.2 \\ 5 \overline{) 56} \\ \underline{5} \\ 06 \\ \underline{5} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

Question 2.

$$2.01 \div 0.03 = ?$$

- (i) 6.7
- (ii) 67.0
- (iii) 0.67
- (iv) 0.067

Answer:

- (ii) 67.0

$$\text{Hint: } 2.01 \div 0.03 = 201 \div 3$$

$$= 67$$

$$\begin{array}{r} 67 \\ 3 \overline{) 201} \\ \underline{18} \\ 21 \\ \underline{21} \\ 0 \end{array}$$

Question 3.

$$0.05 \div 0.5 = ?$$

- (i) 0.01
- (ii) 0.1
- (iii) 0.10
- (iv) 1.0

Answer:

- (ii) 0.1

Hint:

$$\frac{0.05}{0.5} = \frac{\frac{5}{100}}{\frac{5}{10}} = \frac{5}{100} \times \frac{10}{5} = \frac{1}{10} = 0.1$$

Ex 1.5

Miscellaneous Practice problems

Question 1.

Malini bought three ribbon of lengths 13.92 m, 11.5 m and 10.64 m. Find the total length of the ribbons?

Solution:

Length of ribbon 1 = 13.92 m

Length of ribbon 2 = 11.50 m

Length of ribbon 3 = 10.64 m

13.92
+ 11.50
10.64
<hr/> 36.06

Total Length of the ribbons = 13.92 m + 11.5 m + 10.64 m = 36.06 m

Totla length of the ribbons = 36.06 m

Question 2.

Chitra has bought 10 kg 35 g of ghee for preparing sweets. She used 8 kg 59 g of ghee. How much ghee will be left?

Solution:

Total weight of ghee bought = 10 kg 35 g

Weight of ghee used = 8 kg 59 g

Weight of ghee left = 10.35 kg - 8.59 kg = 1.76 kg

10.35
- 8.59
<hr/> 1.76

∴ Weight of ghee left = 1 kg 76 g = 1.76 kg

Question 3.

If the capacity of a milk can is 2.53 l, then how much milk is required to fill 8 such cans?

Solution:

Capacity of 1 milk can = 2.53 l

∴ Capacity of 8 milk cans = $2.53 \text{ l} \times 8 = 20.24 \text{ l}$

$$\begin{array}{r} 2.53 \\ \times \quad 8 \\ \hline 20.24 \end{array}$$

To fill 8 cans 20.24 l of milk is required.

Question 4.

A basket of orange weighs 22.5 kg. If each family requires 2.5 kg of orange, families can share?

Solution:

Total weight of orange = 22.5 kg

Weight of orange required for 1 family = 2.5 kg

∴ Number of families sharing orange = $22.5 \text{ kg} \div 2.5 \text{ kg}$

$= 22.5 \div 2.5 = 22.5 \times \frac{10}{10} = 225 \div 25 = 9$

∴ 9 families can share the oranges.

Question 5.

A baker uses 3.924 kg of sugar to bake 10 cakes of equal size. How much sugar is used in each cake?

Solution:

For 10 cakes sugar required = 3.924 kg

For 1 cake sugar required = $3.924 \div 10 = 3.924 \div 10 = 0.3924 \text{ kg}$

For 1 cake sugar required = 0.3924 kg.

Question 6.

Evaluate:

(i) 26.13×4.6

(ii) $3.628 + 31.73 - 2.1$

Solution:

(i) 26.13×4.6

$26.13 \times 4.6 = 120.198$

×	26.13	2 decimal places
	4.6	1 decimal place
	15678	
	10452	
	120.198	3 decimal places

(ii) $3.628 + 31.73 - 2.1 = 33.258$

+	3.628
	31.73
-	35.358
	2.1
	33.258

Question 7.

Murugan bought some bags of vegetables. Each bag weighs 20.55 kg. If the total weight of all the bags is 308.25 kg, how many bags did he buy?

Solution:

Total weight of all bags = 308.25 kg

Weight of 1 bag = 20.55 kg

$$\begin{aligned}
 \therefore \text{Number of bags} &= \frac{\text{Total weight}}{\text{Weight of 1 bag}} \\
 &= \frac{308.25}{20.55} = \frac{\left(\frac{30825}{100}\right)}{\left(\frac{2055}{100}\right)} \\
 &= \frac{30825}{100} \times \frac{100}{2055} \\
 &= \frac{30825}{2055} = \frac{2055}{137} = 15
 \end{aligned}$$

\therefore He bought 15 bags.

2055
6165
30825
2055
411
137

15
137
137
685
685
0

Question 8.

A man walks around a circular park of distance 23.761 m. How much distance will he cover in 100 rounds?

Solution:

In 1 round distance covered = 23.761 m

\therefore In 100 rounds distance = 23.761×100
= 2376.1 m

\therefore In 100 round he covers 2376.1 m.

Question 9.

How much 0.0543 is greater than 0.002?

Solution:

Greater number = 0.0543 (–)

Smaller number = 0.0020

= 0.0523

\therefore Required answer is 0.0523

Question 10.

A printer can print 15 pages per minute. How many pages can it print in 4.6 minutes?

Solution.

In 1 minute the pages printed = 15

In 4.6 minutes the pages printed = 15×4.6
= 69

4.6	1 decimal place
15	
<hr/>	
230	
460	
<hr/>	
69.0	1 decimal place

The printer prints 69 pages.

Challenge Problems

Question 1.

The distance travelled by Prabhu from home to Yoga centre is 102 m and from Yoga centre to school is 165 m. What is the total distance travelled by him in kilometres (in decimal form)?

Solution:

Distance from home to yoga centre	=	102 m (+)
Distance from yoga centre to school	=	<u>165 m</u>
Total distance	=	<u>267 m</u>
1000 meters	=	<u>1 km</u>

$$\therefore 267 \text{ metres} = 267/1000 \text{ km} = 0.267 \text{ km}$$

$$\therefore \text{Total distance travelled} = 0.267 \text{ km}$$

Question 2.

Anbu and Mala travelled from A to C in two different routes. Anbu travelled from place A to place B and from there to place C. A is 8.3 km from B and B is 15.6 km from C. Mala travelled from place A to place D and from there to place C. D is 7.5 km from A and C is 16.9 km from D. Who travelled more and by how much distance?

Solution:

Distance travelled by Anbu:

From place A to place B = 8.3 km

Distance from place B to place C = 15.6 km

$$\therefore \text{Total distance travelled by Anbu} = 8.3 + 15.6 \\ = 23.9 \text{ km}$$

Distance travelled by Mala:

Distance travelled place A to D = 7.5 km

Distance from place D to place C = 16.9 km

Total distance travelled by mala = $(7.5 + 16.9) \text{ km} = 24.4 \text{ km}$

$$24.4 > 23.9$$

\therefore Mala travelled more distance. She travelled $(24.4 - 23.9) \text{ km}$ more i.e she travelled 0.5 km more

Question 3.

Ramesh paid ₹ 97.75 per hour for a taxi and he used 35 hours in a week. How much he has to pay totally as taxi fare for a week?

Solution:

Payment for the taxi for an hour = ₹ 97.75

Total hours the taxi was used = 35 hrs

$$\therefore \text{Total payment for the taxi for the week}$$

97.75	2 decimal places
35	
48875	
293250	
3421.25	2 decimal places

$$= 97.75 \times 35$$

$$= 3421.25$$

Total payment for a week = ₹ 3421.25

Question 4.

An Aeroplane travelled 2781.20 kms in 6 hours. Find the average speed of the aeroplane in Km/hr.

Solution:

In 6 hours the distance travelled = 2781.20 km

In 1 hour the distance travelled = 2781.206 km

$$\begin{aligned}
 &= \frac{\left(\frac{278120}{100}\right)}{\left(\frac{6}{1}\right)} = \frac{278120}{100} \times \frac{1}{6} \\
 &= \frac{278120}{6} \times \frac{1}{100} = 46353 \times \frac{1}{100} \\
 &= 463.53 \text{ km}
 \end{aligned}$$

Average speed of the aroplane = 463.53 km/hr.

Question 5.

Kumar's car gives 12.6 km mileage per litre. If his fuel tank holds 25.8 litres then how far can he travel?

Solution.

Distance travelled with 1 litre fuel = 12.6 km

∴ with 25.8 litres distance travelled = 12.6×25.8

$$= 325.08 \text{ km}$$

12.6	1 decimal place
× 25.8	1 decimal place
1008	
6300	
25200	
325.08	2 decimal places

The car can travel 325.08 km