Another Peek Beyond Class 7 Solutions Maths Ganita Prakash Part 2 Chapter 4

4.1 A Quick Recap of Decimals, 4.2 Decimal Multiplication

Figure It Out (Pages 73-74)

Question 1.
Recall that a tenth is 0.1, a hundredth is 0.01, and so on. Find the following products in tenths, hundredths, and so on: (a) 6 × 4 tenths = 24 tenths (b) 7 × 0.3 (c) 9 × 5 hundredths

Solution:
(a) Here, 6 × 4 tenths = 24 tenths. (b) 7 × 0.3 = 7 × 3 tenths = 21 tenths (c) Here, 9 × 5 hundredths = 45 hundredths

Question 2.
Find the products: (a) 27.34 × 6 (b) 4.23 × 3.7 (c) 0.432 × 0.23

Solution:

$$(a)\ \text{Here, } 27.34 \times 6 = \frac{2734}{100} \times 6 = \frac{16404}{100} = 164.04 \quad (\text{2 decimals})$$

$$(b)\ \underset{(\text{2 decimals})}{4.23} \times \underset{(\text{1 decimal})}{3.7} = \frac{423 \times 37}{100 \times 10} = \frac{15651}{1000} = 15.651 \quad (\text{3 decimals})$$

$$(c)\ \underset{(\text{3 decimals})}{0.432} \times \underset{(\text{2 decimals})}{0.23} = \frac{9936}{1000 \times 100} = 0.09936 \quad (\text{5 decimals})$$

Question 3.
Thejus needs 1.65 m of cloth for a shirt. How many metres of cloth are needed for 3 shirts?

Solution:
Given: Thejus needs 1.65 m of cloth for a shirt. For 3 shirts, the total cloth needed = 1.65 × 3 = 165100 × 3

= 495100 = 4.95

Question 4.
Meenu bought 4 notebooks and 3 erasers. The cost of each book was ₹ 15.50, and each eraser was ₹ 2.75. How much did she spend in all?

Solution:
Here cost of 1 notebook = ₹ 15.50 ∴ Cost of 4 notebooks = 4 × 15.50 = 4×1550100

= 6200100
= ₹ 62
and cost of 1 eraser = ₹ 2.75
∴ Cost of 3 erasers = 3 × ₹ 2.75
= 3×275100
= 825100 = ₹ 8.25 ∴ Total amount spent = 62 + 8.25 = ₹ 70.25

Question 5.
The thickness of a rupee coin is 1.45 mm. What is the total height of the cylinder formed by placing 36 rupee coins one over the other? Write the answer in centimetres.

Solution:
Thickness of 1 coin = 1.45 mm Total thickness of 36 coins = 36 × 1.45 = 36×145100
= 5220100
= 52.2 mm
Now 10 mm = 1 cm
1 mm = 110 cm
∴ 52.2 mm = 52.210 = 5.22 cm.

Question 6.
The price of 1 kg of oranges is ₹ 56.50. What is the price of 2.250 kg of oranges? Can we write 56.50 as 56.5 and 2.250 as 2.25 and multiply? Will we get the same product? Why?

Solution:
Price of 1 kg of oranges = ₹ 56.50 Price of 2.250 kg of oranges = 56.50 × 2.250 = 5650×2250100×1000
= 12712500100000 = ₹ 127.125 Now 56.5 × 2.25 = 127.125 Hence, we will get the same product. The zeroes at the end of a decimal do not change its value. As we saw, 56.50 is the same as 56.5, and 2.250 is the same as 2.25. Hence, the product of the two numbers will be the same.

Question 6.
Dwarakanath purchases notebooks at a wholesale price of ₹ 23.6 per piece and sells each notebook at ₹ 30/-. How much profit does he make if he sells 50 books in a week?

Solution:
Profit per notebook = Selling price – wholesale price = 30 – 23.6 = ₹ 6.4 Total profit = Profit per notebook × No. of notebooks = 6.4 × 50 = ₹ 320

Question 7.
Given that 18 × 12 = 216, find the products: (a) 18 × 1.2 (b) 18 × 0.12 (c) 1.8 × 1.2 (d) 0.18 × 0.12 (e) 0.018 × 0.012 (f) 1.8 × 12 In which of the cases above is the product less than 1?

Solution:
(a) Here 18 × 12 = 216 …..(i) Now 18 × 1.2 = 18×1210 [Using (i)]
= 21610 = 21.6 (1 decimal place)

(b) 18 × 0.12 = 18×12100 (Using (i))
= 216100 = 2.16 (2 decimal places)

(c) 1.8 × 1.2 = 1810×1210=216100 [Using (i)] = 2.16 (2 decimal places)

(d) 0.18 × 0.12 = 18100×12100=216100×100 [Using (i)] = 0.0216 (4 decimal places)

(e) 1.8 × 12 = 18×1210=21610 [Using (i)] = 21.6 (1 decimal place) When multiplying two numbers positive if both numbers are less than 1, their product will also be less than 1. In (d) and (e) product is less than 1.

Question 9.
In which of the following multiplications is the product less than 1? Can you find the answer without actually doing the multiplications? (a) 7 × 0.6 (b) 0.7 × 0.6 (c) 0.7 × 6 (d) 0.07 × 0.06

Solution:
Yes, we can find the answer without actual multiplication, only by using decimal place values. Multiplying by a number greater than 1: The product is greater than the original number. Multiplying by a number between 0 and 1: The product is less than the original number. Multiplying two numbers between 0 and 1: The product will be less than both factors, and therefore definitely less than 1. (a) Greater than 1. (b) Less than 1. (c) Greater than 1. (d) Less than 1.

Question 10.
Multiplying the following numbers by 10, 100, and 1000 to complete the table.

	× 10	× 100	× 1000
5.7			
23.02			
0.92			
0.306			
24.67			

Solution:

	×10	×100	×1000
5.7	57	570	5700
23.02	230.2	2302	23020
0.92	9.2	92	920
0.306	3.06	30.6	306
24.67	246.7	2467	24670

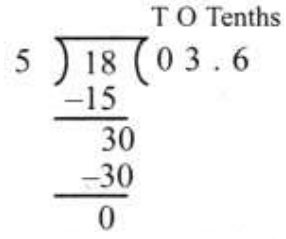
4.3 Decimal Division

Figure It Out (Page 83)

Question 1.
Find the quotient by converting the denominator into 1, 10, 100, or 1000 and verify the solution by the long division method (division by place value). (a) 185
(b) 4154
(c) 12172
(d) 48278

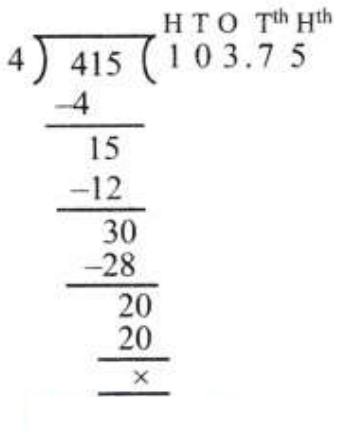
Solution:
(a) Given 185
To convert the denominator 5 into 10, multiply both the numerator and Dr by 2.
18×25×2=3610 = 3.6
Verification
18 ÷ 5
Dividing 1 ten and 8 ones into 5 equal parts.
1 < 5

It means we need to regroup 1 ten as 10 ones,
i.e., 10 + 8 = 18 ones
18 ones ÷ 5
3 ones remain.
To divide 3 ones into 5 equal parts.
Regroup the 3 ones as 30 Tenths. (Place a decimal while regrouping ones into tenths).
30 Tenths ÷ 5 = 6
Then, 18 ÷ 5 = 3.6



Hence verified.

(b) Given 4154
To convert the denominator 4 into 100, multiply both the Nr and Dr by 25.
415×254×25=10375100 = 103.75
Verification
By following the steps



∴ 414 ÷ 4 = 103.75 Hence verified.

(c) Given 12172
To convert the denominator 2 into 10, multiply both the Nr and Dr by 5.
1217×52×5=608510 = 608.5
Verification
By following the steps:

$$
\begin{array}{r|l}
2 & 1217 \\
 & -12 \\
\hline
 & 017 \\
 & -16 \\
\hline
 & 10 \\
 & -10 \\
\hline
 & 0 \\
\hline
\end{array}
\quad
\begin{array}{l}
\text{H T O } T^{th} \\
6\,0\,8.5
\end{array}
$$

∴ 1217 ÷ 2 = 608.5 Hence verified.

(d) Given 48278

To convert the denominator 8 into 1000, multiply both the Nr and Dr by 125.

4827×1258×125=6033751000 = 603.375

Verification

By following the steps:

$$
\begin{array}{r|l}
8 & 4827 \\
 & -48 \\
\hline
 & 027 \\
 & -24 \\
\hline
 & 30 \\
 & -24 \\
\hline
 & 60 \\
 & -56 \\
\hline
 & 40 \\
 & -40 \\
\hline
 & \times \\
\hline
\end{array}
\quad
\begin{array}{l}
\text{Th H T O } T^{th}\ H^{th}\ Th^{th} \\
0\,6\,0\,3.3\ \ 7\ \ 5
\end{array}
$$

We get 4827 ÷ 8 = 0603.375 Hence verified.

Question 2.

Choose the correct answer:

(a) 15264 = _____

(i) 38.15

(ii) 380.15

(iii) 381.5

(iv) 381.05

(b) 35678 = _____

(i) 4458.75

(ii) 44.5875

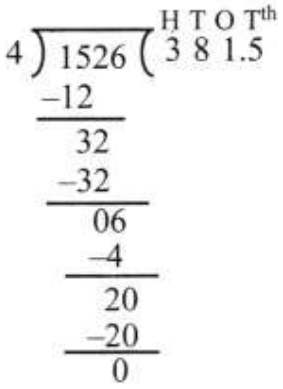
(iii) 445.875

(iv) 4458.75

Solution:

(a) 15264

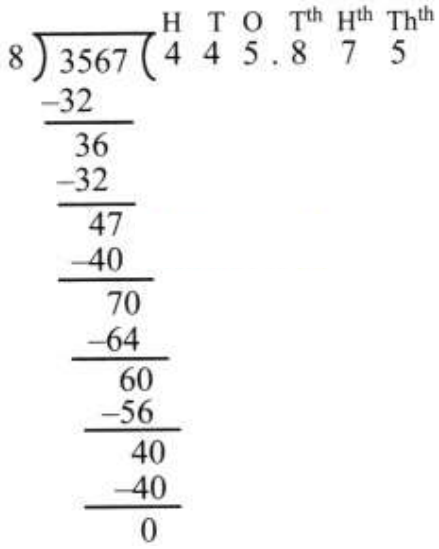
By using the Long Division Method:



Hence, option (iii) is correct.

(b) Given 35678

By using the Long Division Method:



Hence, option (iii) is correct.

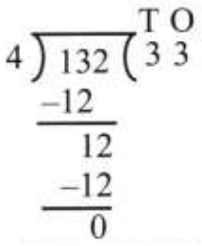
Question 3.

What is the quotient?

(a) 132 ÷ 4 = _____ (b) 13.2 ÷ 4 = _____ (c) 1.32 ÷ 4 = _____ (d) 0.132 ÷ 4 = _____

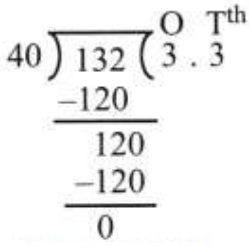
Solution:

(a) 1324



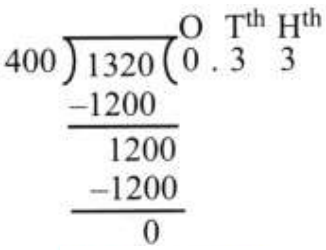
∴ Quotient = 33

(b) 13.24 = 13240



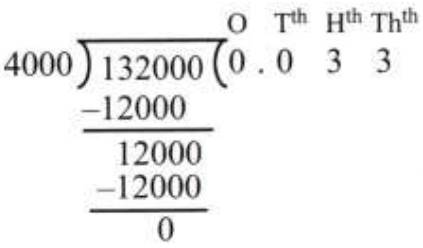
∴ Quotient = 3.3

(c) Here 1.324=132400



∴ Quotient = 0.33

(d) Here 0.1324=1324000



∴ Quotient = 0.033

Question 4.
What is the quotient?
(a) 126 ÷ 8 = _____ (b) 12.6 ÷ 8 = _____ (c) 1.26 ÷ 8 = _____ (d) 0.126 ÷ 8 =

_____ (e) 0.0126 ÷ 8 = _____

Solution: (a) 1268

$$
\begin{array}{r}
\text{T O } T^{th} H^{th} \\
8\overline{)\,126\,(} \; 1\,5\,.\,7\;\;5 \\
-8 \\
\hline
46 \\
-40 \\
\hline
60 \\
-56 \\
\hline
40 \\
-40 \\
\hline
0
\end{array}
$$

Hence quotient = 15.75

(b) 12.68

$$
\begin{array}{r}
\text{T O } T^{th} H^{th} \\
8\overline{)\,12.6\,(} \; 1.5\;\;7\;\;5 \\
-8 \\
\hline
46 \\
-40 \\
\hline
60 \\
-56 \\
\hline
40 \\
-40 \\
\hline
0
\end{array}
$$

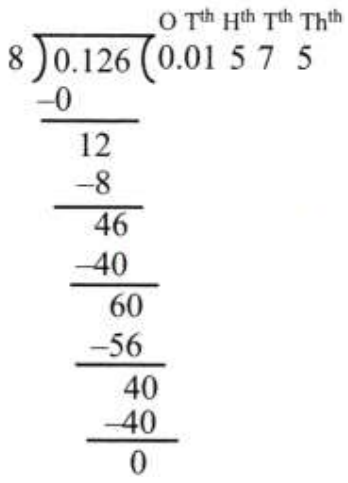
Hence quotient = 1.575

(c) Here 1.26 ÷ 8

$$
\begin{array}{r}
\text{O } T^{th} H^{th} Th^{th} TTh^{th} \\
8\overline{)\,1.26\,(} \; 0.1\;\;5\;\;7\;\;5 \\
-0 \\
\hline
12 \\
-8 \\
\hline
46 \\
-40 \\
\hline
60 \\
-56 \\
\hline
40 \\
40 \\
\hline
0
\end{array}
$$

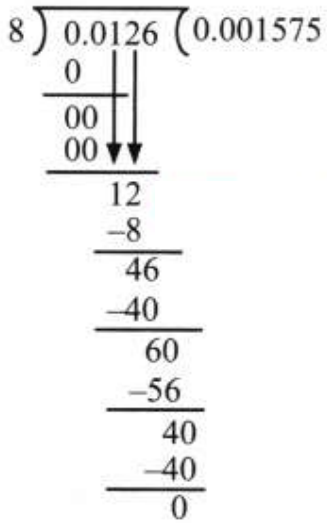
Hence quotient = 0.1575

(d) Here 0.126 ÷ 8



Hence quotient = 0.01575

(e) Here 0.0126 ÷ 8



Hence quotient = 0.001575

Figure It Out (Pages 86-87)

Question 1.
Express the following fractions in decimal form:
(a) 25
(b) 134
(c) 450
(d) 58

Solution:
(a) 25
Multiply both the Nr and Dr by 2.

25×22=410
Now, put decimal 410 = 0.4
Hence 25 in decimal form is 0.4.

(b) 134
Multiply both the Nr and Dr by 25.
134×2525=325100
Now, put a decimal
325100 = 3.25
Hence 134 in decimal form is 3.25.

(c) 450
Multiply both the Nr and Dr by 2.
450×22=8100
Now, put the decimal
8100 = 0.08
Hence 450 in decimal form is 0.08.

(d) 58
Multiply both the Nr and Dr by 125.
58×125125=6251000
Now, put the decimal
6251000 = 0.625
Hence 58 in decimal form is 0.625.

Question 2.
Find the quotients: (a) 24.86 ÷ 1.2 (b) 5.728 ÷ 1.52

Solution:
(a) Here 24.86 ÷ 1.2 Converting division into a fraction, we get
24.861.2=2486×1012×100=2486120

Now

$$
\begin{array}{r}
120\overline{)\,2486\,(20.7166} \\
-240 \\
\hline
860 \\
-840 \\
\hline
200 \\
-120 \\
\hline
800 \\
-720 \\
\hline
80
\end{array}
$$

∴ Quotient = 20.7166…

(b) Converting division into a fraction, we get

$$5.728 \div 1.52 = \frac{5.728}{1.52} = \frac{5728 \times 100}{152 \times 1000}$$

$$= \frac{5728}{1520}. \text{ Now } 1520\overline{)5728}\,(3.76$$

$$\begin{array}{r} -4560 \\ \hline 11680 \\ -10640 \\ \hline 10400 \\ -9120 \\ \hline 1280 \end{array}$$

∴ Quotient = 3.76

Question 3.
Evaluate the following using the information 156 × 12 = 1872. (a) 15.6 × 1.2 = _____ (b) 187.2 ÷ 1.2 = _____ (c) 18.72 ÷ 15.6 = _____ (d) 0.156 × 0.12 = _____

Solution:
Given 156 × 12 = 1872 ……(i) ⇒ 156 = 187212 …….(ii)
⇒ 12 = 1872156 …….(iii)
(a) Now converting division into a fraction
15.6 × 1.2 = 156×1210×10=1872100 = 18.72 [using (i)]

(b) Converting division into a fraction 187.2 ÷ 1.2 187.2 ÷ 1.2 = 187.21.2=187212 = 156 [using (ii)]

(c) Converting division into a fraction 18.72 ÷ 15.6, we get 18.72 ÷ 15.6 = 18.7215.6=1872×10156×100 = 1210 = 1.2 [Using (iii)]

(d) Here 0.156 × 0.12 = 156×121000×100 [Using (i)]
= 18721000×100 = 0.01872

Question 4.
Evaluate the following: (a) 25 ÷ _____ = 0.025 (b) 25 ÷ _____ = 250 (c) 25 ÷ _____ = 2.5 (d) 25 ÷ 10 = 25 × _____ (e) 25 ÷ 0.10 = 25 × _____ (f) 25 ÷ 0.01 = 25 × _____

Solution:

(a) Let $25 \div x = 0.025$

$$\frac{25}{0.025} = x \Rightarrow x = \frac{25 \times 1000}{25} = 1000$$

(b) $25 \div x = 250$

$$\Rightarrow x = \frac{25}{250} = \frac{1}{10} = 0.1$$

(c) $25 \div x = 2.5$

$$\Rightarrow x = \frac{25}{2.5} = \frac{25 \times 10}{25} = 1 \times 10 = 10$$

(d) Let $25 \div 10 = 25 \times x$

$$\frac{25}{10} = 25 \times x \Rightarrow x = \frac{25}{10 \times 25} = \frac{1}{10} = 0.1$$

(e) Let $25 \div 0.10 = 25 \times x$

$$\Rightarrow \frac{25}{0.10 \times 25} = x \Rightarrow x = \frac{1}{0.10} = \frac{100}{10} = 10$$

(f) Let $25 \div 0.01 = 25 \times x$

$$x = \frac{25}{0.01 \times 25} = x \Rightarrow x = \frac{1}{0.01} = \frac{100}{1} = 100.$$

Question 5.
Find the quotients: (a) 2.46 ÷ 1.5 = _____ (b) 2.46 ÷ 0.15 = _____ (c) 2.46 ÷ 0.015 = _____ Is the quotient obtained in 24.6 ÷ 1.5 the same as the quotient obtained in 2.46 ÷ 0.15?

Solution:
Converting 2.46 ÷ 1.5 into fraction $2.461.5=\frac{246\times10}{15\times100}=\frac{246}{150}$

$$\begin{array}{r} 150\overline{)\ 246\ (1.64} \\ -150 \\ \hline 960 \\ -900 \\ \hline 600 \\ -600 \\ \hline 0 \end{array}$$

∴ Quotient = 1.64

(b) Converting 2.46 ÷ 0.15 into a fraction, we get
$2.460.15=\frac{246\times100}{15\times100}=\frac{246}{15}$

$$
\begin{array}{r|l}
15 & 246 \\
 & -15 \\
\hline
 & 96 \\
 & -90 \\
\hline
 & 60 \\
 & -60 \\
\hline
 & 0
\end{array}
\quad 16.4
$$

∴ Quotient = 16.4

(c) Converting 2.46 ÷ 0.015 into a fraction, we get
2.460.015=246×100015×100=246015

$$
\begin{array}{r|l}
15 & 2460 \\
 & -15 \\
\hline
 & 96 \\
 & -90 \\
\hline
 & 60 \\
 & -60 \\
\hline
 & 0
\end{array}
\quad 164
$$

∴ Quotient = 164
Now 24.61.5=246×1015×10=24615
and 2.460.15=246×10015×100=24615 Both are the same. Hence quotient obtained in 24.6 ÷ 1.5 is the same as the quotient obtained in 2.46 ÷ 0.15.

Question 6.
A 4 m long wooden block has to be cut into 5pieces of equal length. What is the length of each piece?

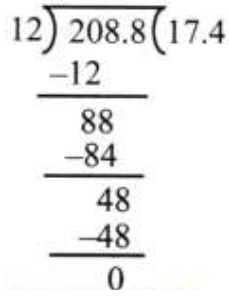
Solution:
Here total length = 4 m No. of pieces = 5 Length of each piece =
Total length No. of pieces

= 45
= 0.8 m

Now
$$
\begin{array}{r|l}
5 & 4 \\
 & -0 \\
\hline
 & 40 \\
 & -40 \\
\hline
 & 0
\end{array}
\quad 0.8
$$

Question 7.
If the perimeter of a regular polygon with 12 sides is 208.8 cm, what is the length of its side?

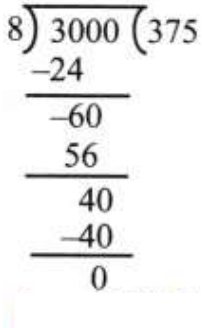
Solution:
Here Perimeter = 208.8 cm No. of sides = 12 Length 0f a side =
Perimeter No. of sides
= 208.812
= 17.4 cm



Question 8.
3 litres of watermelon juice is shared among 8 friends equally. How much watermelon juice will each get? Express the quantity of juice in millilitres.

Solution:
Here total quantity of juice = 3 litres No. of friends = 8 ∴ Juice per friend = 38 litre

= 38 × 1000 ml
= 30008
= 375 ml



Question 9.
A car covers 234.45 km using 12.6 litres of petrol. What is the distance travelled per litre?

Solution:
Given total distance = 234.45 km
Total petrol = 12.6 litres

$$\text{Distance per litre} = \frac{\text{Total distance}}{\text{Total petrol}}$$
$$= \frac{234.45}{12.6}$$
$$= \frac{23445 \times 10}{126 \times 100}$$
$$= \frac{23445}{1260} = 18.607 \text{ km}$$

Now

$$\begin{array}{r} 1260\overline{)\,23445\,(18.607} \\ -1260 \\ \hline 10845 \\ -10080 \\ \hline 7650 \\ -7560 \\ \hline 9000 \\ -8820 \\ \hline 180 \end{array}$$

Hence, the total distance travelled per litre of petrol is 18.607 km.

Question 10.
13.5 kg of flour (aata) was distributed equally among 15 students. How much flour did each student receive?

Solution:
Total quantity of flour = 13.5 kg No. of students = 15 Flour per student = 13.515 = 0.9 kg

Now

$$
\begin{array}{r|l}
15 & 13.5 \\
 & -13.5 \\
\hline
 & 0
\end{array}
\quad .9
$$

Each student receives = 0.9 kg.

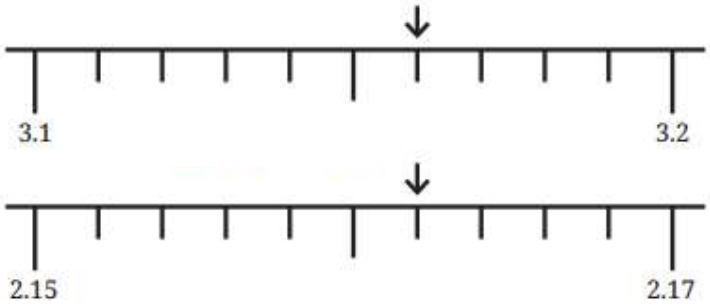
4.4 Look Before You Leap!

Figure It Out (Pages 93-95)

Question 1.
A 210-gram packet of peanut chikki costs ₹ 70.5, while a 110-gram packet of potato chips costs ₹ 33.25. Which is cheaper?

Solution:
Given cost of a peanut is ₹ 70.5 per 210 grams. ∴ Cost per gram = 70.5210 = 0.3357
and cost of potato chips is ₹ 33.25 for 110 grams.
∴ Cost per gram = 33.25110 = 0.3023 ∵ 0.3023 < 0.3357. Hence, potato chips are cheaper.

Question 2.
Write the decimal number at the arrow mark:



Solution:
(i) Here number line is divided into 10 equal parts.
Difference between 3.2 and 3.1 = 3.2 – 3.1 = 0.1
Value of each mark = 0.110 = 0.01 Now the arrow is on the sixth mark after 3.1
∴ Decimal number at the arrow mark = 3.1 + 6 × 0.01 = 3.1 + 0.06 = 3.16

(ii) Here number line is divided into 10 equal parts between 2.15 and 2.17. ∴ Difference between 2.17 and 2.15 = 2.17 – 2.15 = 0.02 Value of each mark = 0.0210 = 0.002 Arrow is on the sixth mark after 2.15 ∴ Decimal number at the arrow mark = 2.15 + 6 × 0.002 = 2.150 + 0.012 = 2.162

Question 3.

Shyamala bought 3 kg of bananas at ₹ 30/- per kg. She counted 35 bananas in all. She sells each banana for ₹ 5/-. How much profit does she make selling all the bananas?

Solution:

Given that Shyamala bought 3 kg of bananas at ₹ 30 per kg. Total cost = 3 × 30 = ₹ 90 She sold 35 bananas for ₹ 5 each. Total revenue = 35 × 5 = ₹ 175 Profit = Total revenue – Total cost = 175 – 90 = ₹ 85

Question 4.

A teacher placed textbooks that are 2.5 cm thick on a bookshelf. The teacher wanted to place 80 textbooks on the shelf. The bookshelf is 160 cm long. How many books could be placed on the shelf? Was there any space left? If yes, how much?

Solution:

Given that, the teacher wanted to place 80 textbooks, each is 2.5 cm thick. Total thickness required = 80 × 2.5 = 200 cm The bookshelf is 160 cm long. The thickness of one book is 2.5 cm. Number of books that can fit = 160 cm2.5 cm = 64 64 books could be placed on the shelf. The total thickness of these books = 64 × 2.5 = 160 cm, which is the full length of the shelf. The teacher wanted to place 80 textbooks, but only 64 textbooks can fit. Therefore, there is no space left after placing the maximum number of books.

Question 5.

Fill in the following blanks appropriately:

1 cm = 10 mm 1 m = 100 cm 1 km = 1000 m	1 kg = 1000 g 1 g = 1000 mg	1 l = 1000 ml

5.5 km = _____ m	35 cm = _____ m	14.5 cm = _____ mm
68 g = _____ kg	9.02 m = _____ mm	125.5 ml = _____ l

Solution: Here, (i) 1 km = 1000 m ∴ 5.5 km = 5.5 × 1000 = 5500 m

(ii) 1 m = 100 cm ∴ 35 cm = 35100 = 0.35 m

(iii) 1 cm = 10 mm ∴ 14.5 cm = 14.5 × 10 = 145 mm

(iv) 1 kg = 1000 g ∴ 68 g = 681000 = 0068 kg

(v) 1 m = 1000 mm ∴ 9.02 m = 9.02 × 1000 = 9020 mm

(vi) 1 l = 1000 ml ∴ 125.5 ml = 125.51000 = 0.1255 l

5.5 km = 5500 m	35 cm = 0.35 m	14.5 cm = 145 mm
68 g = 0.068 kg	9.02 m = 9020 mm	125.5 ml = 0.1255l

Question 6.
The following problem was set by Sridharacharya in his book, Patiganita. "614 is divided by 212, and 6014 is divided by 312. Tell the quotients separately." Can you try to solve by converting the fractions into decimals?

Solution:

$$\text{Given } 6\frac{1}{4} = 6 + \frac{1}{4} = 6 + 0.25 = 6.25$$

$$\text{and} \quad 2\frac{1}{2} = 2 + \frac{1}{2} = 2 + 0.5 = 2.5$$

$$60\frac{1}{4} = 60 + \frac{1}{4} = 60 + 0.25 = 60.25$$

$$3\frac{1}{2} = 3 + 0.5 = 3.5$$

$$\text{Now } 6\frac{1}{4} \text{ is divided by } 2\frac{1}{2}.$$

$$\Rightarrow \quad \frac{6.25}{2.5} = \frac{625 \times 10}{25 \times 100} = \frac{625}{250}$$

$$250\overline{)\,625\,(2.5} \qquad \therefore \quad \text{Quotient} = 2.5$$

$$\begin{array}{r} -500 \\ \hline 1250 \\ -1250 \\ \hline 0 \end{array}$$

Also $60\frac{1}{4}$ is divided by $3\frac{1}{2}$.

$$\Rightarrow \frac{60.25}{3.5} = \frac{6025 \times 10}{35 \times 100} = \frac{6025}{350}$$

$$\begin{array}{r} \therefore\ 350\overline{)\,6025\,(17.21} \\ -350 \\ \hline 2525 \\ -2450 \\ \hline 750 \\ -700 \\ \hline 500 \\ -350 \\ \hline 150 \end{array}$$

∴ Quotient = 17.21

Question 7.
Fill the boxes in at least 2 different ways:

(a) $\square \times \square = 2.4$
(b) $\square \times \square = 14.5$

Solution:
(a) Here 1.2 × 2 = 2.4 and 0.4 × 6 = 2.4 (b) Here 2.9 × 5 = 14.5 and 14.5 × 1 = 14.5

Question 8.
Find the following quotients given that 756 ÷ 36 = 21: (a) 75.6 ÷ 3.6 (b) 7.56 ÷ 0.36 (c) 756 ÷ 0.36 (d) 75.6 ÷ 360 (e) 7560 ÷ 3.6 (f) 7.56 ÷ 0.36

Solution:

(a) Given $756 \div 36 = 21$ ...(i)

Here $\frac{75.6}{3.6} = \frac{756 \times 10}{36 \times 10} = \frac{756}{36} = 21$

[Using (i)]

(b) Here $\frac{7.56}{0.36} = \frac{756 \times 100}{36 \times 100} = \frac{756}{36} = 21$

[Using (i)]

(c) Here $\frac{756}{0.36} = \frac{756 \times 100}{36} = 21 \times 100 = 2100$

[Using (i)]

(d) Here $\frac{75.6}{360} = \frac{756}{360 \times 10} = \frac{756}{360 \times 10}$

[Using (i)]

$= \frac{21}{100} = 0.21$

(e) Here $\frac{7560}{3.6} = \frac{7560}{36} \times 10 = \frac{756}{36} \times 10 \times 10$

$= 21 \times 10 \times 10 = 2100$ [Using (i)]

(f) Here $\frac{7.56}{0.36} = \frac{756 \times 100}{36 \times 100} = \frac{756}{36} = 21$

[Using (i)]

Question 9.

Find the missing cells if each cell represents a ÷ b:

b ↓ a →	1517	151.7	15.17	1.517	15170
37	41				
3.7			4.1		
0.37					
0.037		4100			
370					

Solution:

Here table given here represents division, where the value in each cell is the result of dividing the number in the corresponding ‘a’ column b the number in the corresponding row ‘b’.

Given 1517 ÷ 37 = 41

151.73.7 = 41
15.170.37 = 41
1.51737 = 0.041

$b \downarrow a \rightarrow$	1517	151.7	15.17	1.517	15170
37	**41**	4.1	0.41	0.041	410
3.7	410	41	4.1	0.41	4100
0.37	4100	410	**4.1**	4.1	41000
0.037	41000	**4100**	410	41	410000
370	4.1	0.41	0.041	0.0041	41

Question 10.
Using the digits 2, 4, 5, 8, and 0, fill the boxes to get the:
(a) maximum product
(b) minimum product
(c) product greater than 150
(d) product nearest to 100
(e) product nearest to 5

Solution:

(a) $\boxed{4}\boxed{2}.\boxed{0} \times \boxed{8}.\boxed{5} = 357$
(b) $\boxed{4}\boxed{5}.\boxed{8} \times \boxed{0}.\boxed{2} = 9.16$
(c) $\boxed{8}\boxed{5}.\boxed{4} \times \boxed{2}.\boxed{0} = 170.8$
(d) $\boxed{2}\boxed{0}.\boxed{5} \times \boxed{4}.\boxed{8} = 98.4$
(e) $\boxed{4}\boxed{5}.\boxed{8} \times \boxed{0}.\boxed{2} = 9.16$

Question 11.
Sort the following expressions in increasing order:
(a) 245.05 × 0.942368
(b) 245.05 × 7.9682
(c) 245.05 ÷ 7.9682
(d) 245.05 ÷ 0.942368
(e) 245.05 (f) 7.9682

Solution:
Let A = 245.05, B = 0.942368, C = 7.9682 We note that B < 1 and C > 1 (a)
Now A × B = 245.05 × 0.942368 < 245.05 (∴ Multiplying a number by a value less than 1 results in a smaller number)

(b) A × C = 245.05 × 7.9682 > 245.05 (Multiplying a number by a value greater than 1 results in a larger number)

(c) A ÷ C = 2.4505 ÷ 7.9682 < 245.05 (Dividing a number by a value greater than 1 results in a smaller number)

(d) A ÷ B = 245.05 ÷ 0.942368 > 245.05 (Dividing a number by a value greater than 1 results in a larger number)

(e) Now, expression less than 245.05 ∴ 0.942368 is closer to 1 than 7.9682 is to 1. 0.942368 will result in a value closer to 245.05 than dividing by 7.9682. ∴ (c) < (a) Again, 0.942368 is closer to 1 than 7.9682 is to 1. ∴ Dividing by 0.942368 will result in a value closer to 245.05 than multiplying by 7.9682. ∴ (d) < (b) Also, (f) 7.9682 is significantly smaller than 245.05; it will be the smallest value.

(f) ∴ 7.9682 < (e) 245.05 ÷ 7.9682 Combining all, we get (f), (c), (a), (e),(d), (b).