Exercise 3.1

Q1. Write each of the following as decimals:

(i) $\frac{8}{100}$

Mark the decimal point two places from right to left

$=\frac{8}{100} = 0.08$

(ii) $20+\frac{9}{10}+\frac{4}{100}$

Convert $\frac{9}{10}$ and $\frac{4}{100}$ into decimals

$\frac{9}{10}$

Mark the decimal point one place from right to left

$\frac{9}{10}$ =0.9

$\frac{4}{100}$

Mark the decimal point two places from right to left

$\frac{4}{100}$

=0.04

$=20+\frac{9}{10}+\frac{4}{100}$

= 20+0.9+0.04

=20.94

(iii) 23+$\frac{2}{10}$ +$\frac{6}{1000}$

Convert $\frac{2}{10}$ and $\frac{6}{1000}$ into decimals

$\frac{2}{10}$

Mark the decimal point one place from right to left

$\frac{2}{10}$

=0.2

$\frac{6}{1000}$

Mark the decimal point three places from right to left

$\frac{6}{1000}$

=0.006

23, 0.2, 0.006 are unlike decimals. So we convert them into like decimals.

=23+$\frac{2}{10}$+$\frac{6}{1000}$

=23+0.2+0.006

=23.206

Q2. Convert each of the following into fractions in the lowest form:

(i) 0.04

$= \frac{0.04}{1}$

$= \frac{0.04 \times 100}{1 \times 100}$

$= \frac{4}{100}$

$= \frac{1}{25}$

(ii) 2.34

$= \frac{2.34}{1}$

$= \frac{2.34 \times 100}{1 \times 100}$

$= \frac{234}{100}$

$= \frac{117}{50}$

(iii) 0.342

$= \frac{0.342}{1}$

$= \frac{0.342 \times 1000}{1 \times 1000}$

$= \frac{342}{1000}$

$= \frac{171}{500}$

(iv) 17.38

$= \frac{17.38}{1}$

$= \frac{17.38 \times 100}{1 \times 100}$

$= \frac{1738}{100}$

$= \frac{869}{50}$

Q3. Express the following fractions as decimals:

(ii) $\frac{23}{10}$

$= \frac{23}{10}$

$= 2.3$

(i) $25\frac{1}{8}$

$= 25 + \frac{1}{8}$

$= 25 + \frac{1 \times 125}{8 \times 125}$

$= 25 + \frac{125}{1000}$

$= 25 + 0.125$

$= 25.125$

(iii) $39\frac{7}{35}$

$= \frac{1372}{35}$

$= 39.2$

(iv) $15tfrac125$

$= 15 + \frac{1}{25}$

$= 15 + \frac{1 \times 4}{25 \times 4}$

$= 15 + \frac{4}{100}$

$= 15 + 0.04$

$= 15.04$

Q4. Add the following:

(i) 41.8, 39.24, 5.01 and 62.6

(ii) 18.03, 146.3, 0.829 and 5.324

Q5. Find the value of:

(i) 9.756-6.28

(ii) 48.1-0.37

(iii) 108.032-86.8

(iv) 100 -26.32

Q6. Take out 3.547 from 7.2

Q7. What is to be added to 36.85 to get 59.41?

x+36.85=59.41

x=59.41-36.85

x=22.56

Therefore 22.56 is added to 36.85 to get 59.41

Q8. What is to be subtracted from 17.1 to get 2.051?

17.1-x=2.051

17.1=x+2.051

x=17.1-2.051

x=15.049

Therefore 15.049 is subtracted from 17.1 to get 15.049

Q9. By how much should 34.79 be increased to get 70.15?

34.79+x=70.15

x=70.15-34.79

x=35.36

Therefore 35.36 is increased to 70.15

Q10. By how much should 59.71 be decreased to get 34.58?

59.71-x=34.58

59.71-34.58=x

x=25.13

Therefore 25.13 is decreased to get 34.58

Exercise 3.2

Q1. Find the product:

(i) 4.74 x 10

Shifting the decimal point by one place to the right

4.74 x 10=47.4

(ii) 0.45 x 10

Shifting the decimal point by one place to the right

0.45×10=4.5

(iii) 0.0215 x 10

Shifting the decimal point by one place to the right

0.0215×10=0.215

(iv) 0.0054 x 100

Shifting the decimal point by two places to the right

0.0054×100=0.054

Q2. Find the product:

(i) 35.853 x 100

Shifting the decimal point by two places to the right

35.853=3585.3

(ii) 42.5 x 100

Shifting the decimal point by two places to the right

42.5×100=4250

(iii) 12.075 x 100

Shifting the decimal point by two places to the right

12.075×100=1207.5

(iv) 100 x 0.005

Shifting the decimal point by two places to the right

0.005×100=0.5

Q3. Find the product:

(i) 2.506 x 1000

Shifting the decimal point by three places to the right

2.506×1000=2506

(ii) 20.708 x 1000

Shifting the decimal point by three places to the right

20.708×1000=20708

(iii) 0.0529 x 1000

Shifting the decimal point by three places to the right

0.0529×1000=52.9

(iv) 1000 x 0.1

Shifting the decimal point by three places to the right

0.1×1000=100

Q4. Find the product:

(i) 3.4 x 17

Multiply the number without looking into the decimal points

3.4×17=578

Mark the decimal point in the product to have one place of decimal as there in the given decimal

=57.8

(ii) 0.745 x 12

Multiply the number without looking into the decimal points

745×12=8940

Mark the decimal point in the product to have three places of decimal as there in the given decimal

0.745 x 12=8.940

(iii) 28.73 x 47

Multiply the number without looking into the decimal points

2873×47=135031

Mark the decimal point in the product to have two places of decimal as there in the given decimal

28.73×47=1350.31

(iv) 0.0415 x 59

Multiply the number without looking into the decimal points

415×59=24485

Mark the decimal point in the product to have two places of decimal as there in the given decimal

0.0415×59=2.4485

Q5. Find:

(i) 1.07 x 0.02

Multiply the number without looking into the decimal points

107×2=214

Sum of the decimal places in the given decimals is 2+2=4

Mark the decimal point in the product to have four places of decimals

1.07×0.02=0.0214

(ii) 211.9 x 1.13

Multiply the number without looking into the decimal points

2119×113=239447

Sum of the decimal places in the given decimals is 1+2=3

Mark the decimal point in the product to have three places of decimals

211.9×1.13=239.447

(iii) 10.05 x 1.05

Multiply the number without looking into the decimal points

1005×105=105525

Sum of the decimal places in the given decimals is 2+2=4

Mark the decimal point in the product to have four places of decimals

10.05×1.05=10.5525

(iv) 13.01 x 5.01

Multiply the number without looking into the decimal points

1301×501=651801

Sum of the decimal places in the given decimals is 2+2=4

Mark the decimal point in the product to have four places of decimals

13.01×5.01=65.1801

Q6. Find the area of a rectangle whose length is 5.5 m and breadth is 3.4 m.

We have

Length of rectangle=5.5m

Breadth of rectangle=3.4m

Area of rectangle=length X Breadth

= 5.5 x 3.4

$=18.7m^2$

Q7. If the cost of a book is Rs 25.75, find the cost of 24 such books.

Cost of one book=Rs.25.75

Therefore cost of 24 books=25.75x 24

=Rs.618.00

Q8. A car covers a distance of 14.75 km in one litre of petrol. How much distance will it cover in 15.5 litres of petrol?

We have,

Distance covered in one litre of petrol=14.75km

Distance covered in 15.5 litres of petrol=14.75 x 15.5

=228.625km

Q9. One kg of rice costs Rs 42.65. What will be the cost of 18.25 kg of rice?

Cost of one kg rice= 42.65

Cost of 18.25kg= 42.65 x 18.25

=Rs.778.3625

Q10. One metre of cloth costs Rs 152.50. What is the cost of 10.75 metres of cloth?

We have,

One metre of cloth cost= Rs.152.50

Cost of 10.75 metres=10.75 x 152.50

=Rs.1639.375

Exercise 3.3

Q1. Divide:

(i) 142.45 by 10

Shifting the decimal point by one place to the left

$\frac{142.45}{10}$
=14.245

(ii) 54.25 by 10

Shifting the decimal point by one place to the left

$\frac{54.25}{10}$
=5.425

(iii) 3.45 by 10

Shifting the decimal point by one place to the left

$\frac{3.45}{10}$
0.345

(iv) 0.57 by 10

Shifting the decimal point by one place to the left

$\frac{0.57}{10}$
=0.057

(v) 0.043 by 10

Shifting the decimal point by one place to the left

$\frac{0.043}{10}$
=0.0043

(vi) 0.004 by 10

Shifting the decimal point by one place to the left

$\frac{0.004}{10}$
=0.0004

Q2. Divide:

(i) 459.5 by 100

Shifting the decimal point by two places to the left

$\frac{459.5}{100}$
=4.595

(ii) 74.3 by 100

Shifting the decimal point by two places to the left

$\frac{74.3}{100}$
=0.743

(iii) 5.8 by 100

Shifting the decimal point by two places to the left

$\frac{5.8}{100}$
=0.058

(iv) 0.7 by 100

Shifting the decimal point by two places to the left

$\frac{0.7}{100}$
=0.007

(v) 0.48 by 100

Shifting the decimal point by two places to the left

$\frac{0.48}{100}$
=0.0048

(vi) 0.03 by 100

Shifting the decimal point by two places to the left

$\frac{0.03}{100}$
=0.0003

Q3. Divide:

(i) 235.41 by 1000

Shifting the decimal point by three places to the left

$\frac{235.41}{1000}$
=0.23541

(ii) 29.5 by 1000

Shifting the decimal point by three places to the left

$\frac{29.5}{1000}$
=0.0295

(iii) 3.8 by 1000

Shifting the decimal point by three places to the left

$\frac{3.8}{1000}$
=0.0038

(iv) 0.7 by 1000

Shifting the decimal point by three places to the left

$\frac{0.7}{1000}$

=0.007

Q4. Divide:

(i) 0.45 by 9

$=\frac{0.45}{9}$

=0.05

(ii) 217.44 by 18

$=\frac{217.44}{18}$

=12.08

(iii) 319.2 by 2.28

$=\frac{319.2}{2.28}$

$=\frac{319.2\times100}{2.28\times100}$

```
228 ) 31920 ( 140
      228
      ---
      912
      912
      ---
      0000
      0000
      ----
         0
```

$=\frac{319.2}{2.28}$ =140

(iv) 40.32 by 9.6

$$= \frac{40.32}{9.6}$$

$$= \frac{40.32 \times 10}{9.6 \times 10}$$

$$= \frac{403.2}{96}$$

```
96) 403.2 ( 4.2
    384
    ----
    192
    192
    ---
      0
```

=4.2

(v) 0.765 by 0.9

$$= \frac{0.765}{0.9}$$

$$= \frac{0.765 \times 10}{0.9 \times 10}$$

$$= \frac{7.65}{9}$$

```
9) 7.65 ( 0.85
   0
   ---
   76
   72
   --
   45
   45
   --
    0
```

=0.85

(vi) 0.768 by 1.6

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

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

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

```
16)7.68  (0.48
   0
  ---
   76
   64
  ---
    128
    128
  -----
      0
  -----
```

=0.48

Q5. Divide:

(i) 16.64 by 20

$$= \frac{16.64}{20}$$

$$= \frac{16.64}{2 \times 10}$$

$$= \frac{16.64}{10} \times \frac{1}{2}$$

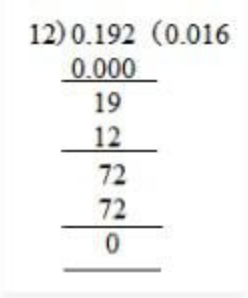
$$= \frac{1.664}{2}$$

```
2)1.664 (0.832
  0
 ---
  16
  16
 ---
   6
   6
 ---
    4
    4
 ---
    0
 ---
```

=0.832

(ii) 0.192 by 12

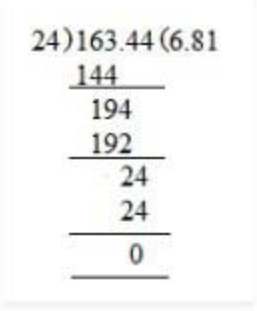
$= \frac{0.192}{12}$



=0.016

(iii) 163.44 by 24

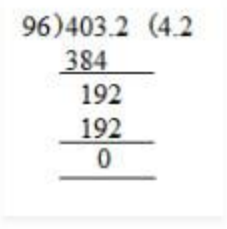
$= \frac{0.192}{12}$



=6.81

(iv) 403.2 by 96

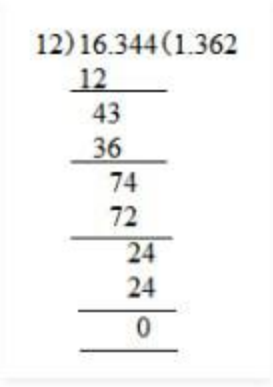
$= \frac{403.2}{96}$



=4.2

(v) 16.344 by 12

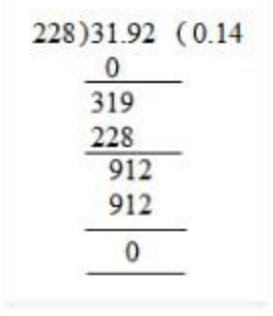
$= \frac{16.344}{12}$



=1.362

(vi) 31.92 by 228

$= \frac{31.92}{228}$



=0.14

Q6. Divide:

(i) 15.68 by 20

$$= \frac{15.68}{20}$$

$$= \frac{15.68}{2 \times 10}$$

$$= \frac{15.68}{10} \times \frac{1}{2}$$

$$= \frac{1.568}{2}$$

```
2)1.568 (0.784
  0
  --
  15
  14
  --
   16
   16
   --
    8
    8
    -
    0
```

=0.784

(ii) 164.6 by 200

$$= \frac{164.6}{200}$$

$$= \frac{164.6}{2 \times 100}$$

$$= \frac{164.6}{100} \times \frac{1}{2}$$

$$= \frac{1.646}{2}$$

```
2)1.646 (0.823
  0
  --
  16
  16
  --
   4
   4
   -
   6
   6
   -
   0
```

=0.823

(iii) 403.80 by 30

$$= \frac{403.80}{30}$$

$$= \frac{403.80}{3 \times 10}$$

$$= \frac{403.80}{10} \times \frac{1}{3}$$

$$= \frac{40.380}{3}$$

```
3)40.380(13.46
  39
  13
  12
  18
  18
   0
```

=13.46

Q7. Divide:

(i) 76 by 0.019

$$= \frac{76}{0.019}$$

$$= \frac{76 \times 1000}{0.019 \times 1000}$$

$$= \frac{76000}{19}$$

```
19) 76000 (4000
   76
   0000
   0000
      0
```

=4000

(ii) 88 by 0.08

$$= \frac{88}{0.08}$$

$$= \frac{88 \times 100}{0.08 \times 100}$$

$$= \frac{8800}{8}$$

```
8)8800 (1100
  8
  08
   8
   00
   00
    0
```

=1100

(iii) 148 by 0.074

$$= \frac{148}{0.074}$$

$$= \frac{148 \times 1000}{0.074 \times 1000}$$

$$= \frac{148000}{74}$$

```
74 )148000(2000
   148
     0000
     0000
        0
```

=2000

(iv) 7 by 0.014

$$= \frac{7}{0.014}$$

$$= \frac{7 \times 1000}{0.014 \times 1000}$$

```
14)7000  (500
  70
  ---
  000
  000
  ---
    0
```

$$= \frac{7000}{14}$$

Q8. Divide:

(i) 20 by 50

$$= \frac{20}{50}$$

```
50)20   (0.4
  0
  ---
  200
  200
  ---
    0
```

(ii) 8 by 100

$$= \frac{8}{100}$$

By shifting the decimal point to the left

$$= \frac{8}{100}$$

=0.08

(iii) 72 by 576

$= \frac{72}{576}$

=0.125

(iv) 144 by 15

$= \frac{144}{15}$

```
15) 144   (9.6
   135
   ---
    90
    90
   ---
     0
   ---
```

=9.6

Q9. A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it travel in 1 litre of petrol?

Distance covered in 2.4 litres of petrol=43.2km

Distance covered in 1 litre of petrol= $\frac{43.2}{2.4}$

=18km

The distance travelled in 1 litre of petrol is 18 km

Q10. The total weight of some bags of wheat is 1743 kg. If each bag weights 49.8 kg, how many bags are there?

Total weight of bags of wheat=1743kg

Each bag weight=49.8kg

No of bags= $\frac{1743}{49.8}$

$= \frac{1743 \times 10}{49.8 \times 10}$

$= \frac{17430}{498}$

=34

Therefore the total numbers of bags are 35

Q11. Shikha cuts 50 m of cloth into pieces of 1.25 m each. How many pieces does she get?

Total length of cloth= 50m

Length of each piece of cloth=1.25m

Number of pieces=$\frac{50}{1.25}$

=$\frac{50\times100}{1.25\times100}$

=$\frac{5000}{125}$

=40 pieces

Therefore Shikha got 40 pieces

Q12. Each side of a rectangular polygon is 2.5 cm in length. The perimeter of the polygon is 12.5 cm. How many sides does the polygon have?

Length of each side of rectangular polygon=5.2cm

Perimeter of polygon=12.5cm

No of sides polygon has=12.5cm

No of sides polygon have=$\frac{12.5}{2.5}$

=$\frac{12.5\times10}{2.5\times10}$

=5

Therefore the sides of the polygon is 5

Q13. The product of two decimals is 42.987. If one of them is 12.46, find the other.

We have,

The product of the given decimals=42.987

` one decimal=12.46

The other decimal=$\frac{42.987}{12.46}$

=3.45

The number is 3.45

Q14. The weight of 34 bags of sugar is 3483.3 kg. If all bags weigh equally, find the weight of each bag.

Total weight of sugar= 3483.3kg

No of bags= 34

Weight of each bag=$\frac{3483.3}{34}$

=102.45kg

Therefore weight of each bag is 102.45kg

Q15. How many buckets of equal capacity can be filled from 586.5 litres of water, if each bucket has capacity of 8.5 litres?

Capacity of each bucket=805 litres

Total water available=586.5litres

Number of buckets=$\frac{805}{586.5}$

=$\frac{805\times10}{586.5\times10}$

=69

Total number of buckets is 69