EXERCISE 15(A)

1. Write the number of decimal places in each of the following:
(i) 7.03
(ii) 0.509
(iii) 146.2
(iv) 0.0065
(v) 8.03207
Solution:
The number of decimal places in a number is the count of digits in its decimal part.
(i) 7.03
The decimal part of the number 7.03 is .03
7.03 has 2 digits in the decimal part
Therefore, 7.03 has 2 decimal places
(ii) 0.509
The decimal part of the number 0.509 is .509
0.509 has 3 digits in the decimal part
Therefore, 0.509 has 3 decimal places
(iii) 146.2
The decimal part of the number 146.2 is .2
146.2 has 1 digit in the decimal part
Therefore, 146.2 has 1 decimal place
(iv) 0.0065
The decimal part of the number 0.0065 is .0065
0.0065 has 4 digits in the decimal part
Therefore, 0.0065 has 4 decimal places
(v) 8.03207
The decimal part of the number 8.03207 is .03207
8.03207 has 5 digits in the decimal part
Therefore, 8.03207 has 5 decimal places

2. Convert the given unlike decimal fractions into like decimal fractions:
(i) 1.36, 239.8 and 47.008
(ii) 507.0752, 8.52073 and 0.808
(iii) 459.22, 7.03093 and 0.200037
Solution:
The like decimal fractions are the numbers that have same number of decimal places. The
numbers of decimal places are made equal by adding zeros in the end of number.
(i) 1.36, 239.8 and 47.008
The maximum number of decimal places is in 47.008

It has 3 decimal places

1.36 = 1.360

239.8 = 239. 800

47.008 = 47.008

Hence, the like decimal fractions are 1.360, 239.800 and 47.008

(ii) 507.0752, 8.52073 and 0.808

The maximum number of decimal places is in 8.52073

It has 5 decimal places

507.0752 = 507.07520

8.52073 = 8.52073

0.808 = 0.80800

Hence, the like decimal fractions are 507.07520, 8.52073 and 0.80800

(iii) 459.22, 7.03093 and 0.200037

The maximum number of decimal places is in 0.200037

It has 6 decimal places

459.22 = 459.220000

7.03093 = 7.030930

0.200037 = 0.200037

Hence, the like decimal fractions are 459.220000, 7.030930 and 0.200037

3. Change each of following fractions to a decimal fraction:

(i) 7 / 10

(ii) 47 / 10

(iii) 343 / 100

(iv) 3 / 10^3

(v) 7295 / 10^5

Solution:

If a fraction has the numbers like 10, 100, 1000 in its denominator, then to convert into the decimal, the numerator is marked with a decimal point after as many digits from the right as number of zeros in denominator

(i) 7 / 10

To convert into decimal number

Here, number of zeros is 1

Therefore, decimal form of 7 / 10 is 0.7

(ii) 47 / 10

To convert into decimal number

Here, number of zeros is 1

Therefore, decimal form of 47 / 10 is 4.7

(iii) 343 / 100

To convert into decimal number

Here, the number of zeros is 2

Therefore, the decimal form of 343 / 100 is 3.43

(iv) $3 / 10^3$

To convert into decimal number

$= 3 / 10 \times 10 \times 10$

$= 3 / 1000$

Here, number of zeros is 3

Therefore, decimal form of $3 / 10^3$ is 0.003

(v) $7295 / 10^5$

To convert into decimal number

$= 7295 / 10 \times 10 \times 10 \times 10 \times 10$

$= 7295 / 100000$

Here, number of zeros is 5

Therefore, decimal form of $7295 / 10^5$ is 0.07295

4. Convert into a decimal fraction:

(i) 3 / 4

(ii) 3 / 40

(iii) 1 / 125

(iv) 7 / 25

Solution:

For denominator having no zeros, the denominator and numerator are first multiplied by a factor that makes the number 10 or some power of 10

(i) 3 / 4

To convert into decimal fraction

Multiply and divide the fraction by 25

$= (3 \times 25) / (4 \times 25)$

We get,

$= 75 / 100$

Here, number of zeros is 2

Therefore, the decimal form is 0.75

(ii) 3 / 40

To convert into decimal fraction

Multiply and divide the fraction by 25

$= (3 \times 25) / (40 \times 25)$

We get,

$= 75 / 1000$

Here, number of zeros is 3

Therefore, decimal form is 0.075

(iii) 1 / 125

To convert into decimal fraction

Multiply and divide the fraction by 8

= (1 × 8) / (125 × 8)

We get,

= 8 / 1000

Here, number of zeros is 3

Therefore, decimal form is 0.008

(iv) 7 / 25

To convert into decimal fraction

Multiply and divide the fraction by 4

= (7 × 4) / (25 × 4)

We get,

= 28 / 100

Here, number of zeros is 2

Therefore, decimal form is 0.28

5. Change the given decimals fractions to fraction s in their lowest terms:

(i) 0.05

(ii) 3.95

(iii) 4.005

(iv) 0.876

(v) 50.06

Solution:

(i) 0.05

To convert 0.05 into fraction

Here, the decimal part of the number has 2 digits in the decimal part

Divide the number by 100 and remove the decimal part

We get,

= 5 / 100

= 1 / 20

Therefore, 1 / 20 is the fraction of 0.05

(ii) 3.95

To convert 3.95 into fraction

Here, the decimal part of the number has 2 digits in the decimal part

Divide the number by 100 and remove the decimal

We get,

= 395 / 100

= 79 / 20

= $3\dfrac{19}{20}$

Therefore, $3\dfrac{19}{20}$ is the fraction of 3.95

(iii) 4.005

To convert 4.005 into fraction

Here, the decimal part of the number has 3 digits in the decimal part

Divide the number by 1000 and remove the decimal

We get,

= 4005 / 1000

= 801 / 200

= $4\dfrac{1}{200}$

Therefore, $4\dfrac{1}{200}$ is the fraction of 4.005

(iv) 0.876

To convert 0.876 into fraction

Here, the decimal part of the number has 3 digits in the decimal part

Divide the number by 1000 and remove the decimal

We get,

= 876 / 1000

= 219 / 250

Therefore, 219 / 250 is the fraction of 0.876

(v) 50.06

To convert 50.06 into fraction

Here, the decimal part of the number has 2 digits in the decimal part

Divide the number by 100 and remove the decimal

We get,

= 5006 / 100

= 2503 / 50

= $50\dfrac{3}{50}$

Therefore, $50\dfrac{3}{50}$ is the fraction of 50.06

EXERCISE 15(B)

1. Add the following:
(i) 0.243, 2.47 and 3.009
(ii) 0.0736, 0.6095 and 0.9107
(iii) 1.01, 257 and 0.200
(iv) 18, 200.35, 11.72 and 2.3
(v) 0.586, 0.0586 and 0.00586
Solution:
To add the decimal number, first convert the decimals into like decimal numbers and then add
(i) 0.243, 2.47 and 3.009
To add 0.243, 2.47 and 3.009,
Convert the decimals into like decimals by adding zeros
Like decimals are 0.243, 2.470 and 3.009
0.243
2.470 +
3.009 +
_____
5.722
_____
Hence, the addition of the given decimal numbers is 5.722
(ii) 0.0736, 0.6095 and 0.9107
To add 0.0736, 0.6095 and 0.9107
Here, all the numbers are like decimal numbers
0.0736
0.6095 +
0.9107 +
_____
1.5938
_____
Hence, the addition of the given numbers is 1.5938
(iii) 1.01, 257 and 0.200
To add 1.01, 257 and 0.200
Convert the decimals into like decimal by adding zeros
Like decimals are 1.010, 257.000 and 0.200
   1.010
257.000 +
   0.200 +
_____

258.210

_____

Hence, the addition of the given decimal numbers is 258.210
(iv) 18, 200.35, 11.72 and 2.3
To add 18, 200.35, 11.72 and 2.3
Convert the decimals into like decimals by adding zeros
Like decimals are 18.00, 200.35, 11.72 and 2.30
  18.00
200.35 +
  11.72 +
   2.30 +

_____

232.37

_____

Hence, the addition of the given decimal numbers is 232.37
(v) 0.586, 0.0586 and 0.00586
To add 0.586, 0.0586 and 0.00586
Convert the decimals into like decimals by adding zeros
Like decimals are 0.58600, 0.05860 and 0.00586
0.58600
0.05860 +
0.00586 +

_____

0.65046

_____

Hence, the addition of the given decimal numbers is 0.65046

2. Find the value of:
(i) 6.8 – 2. 64
(ii) 2 – 1.0304
(iii) 0.1 – 0.08
(iv) 0.83 – 0.342
Solution:
To subtract the decimal numbers, first convert the decimal into like decimal numbers and
then subtract
(i) 6.8 – 2. 64
Convert the decimals into like decimal numbers by adding zeros
Like decimals are 6.80 and 2.64
6.80 –

2.64

_____

4.16

_____

Hence, the subtraction of the decimal numbers is 4.16

(ii) 2 – 1.0304

Convert the decimals into like decimal numbers by adding zeros

Like decimals are 2.0000 and 1.0304

2.0000 –

1.0304

_____

0.9696

_____

Hence, the subtraction of the decimal numbers is 0.9696

(iii) 0.1 – 0.08

Convert the decimals into like decimal numbers by adding zeros

Like decimals are 0.10 and 0.08

0.10

0.08 –

_____

0.02

_____

Hence, the subtraction of the decimal numbers is 0.02

(iv) 0.83 – 0.342

Convert the decimals into like decimal numbers by adding zeros

Like decimals are 0.830 and 0.342

0.830

0.342 –

_____

0.488

_____

Hence, the subtraction of the decimal numbers is 0.488

3. Subtract:
(i) 0.43 from 0.97
(ii) 2.008 from 22.1058
(iii) 0.18 from 0.6
(iv) 1.002 from 17
(v) 83 from 92.05

Solution:
To subtract the decimal numbers, first convert the decimals into like decimal numbers and then subtract
(i) 0.43 from 0.97
The given decimals are like decimals
0.97
0.43 –

_____

0.54

_____

Hence, the subtraction of the decimal numbers is 0.54
(ii) 2.008 from 22.1058
To subtract 2.008 from 22.1058
Convert the decimals into like decimals by adding zeros
Like decimals are 22.1058 and 2.0080
22.1058
2.0080 –

_____

20.0978

_____

Hence, the subtraction of the decimal numbers is 20.0978
(iii) 0.18 from 0.6
To subtract 0.18 from 0.6
Convert the decimals into like decimals by adding zeros
Like decimals are 0.60 and 0.18
0.60
0.18 –

_____

0.42

_____

Hence, the subtraction of the decimal numbers is 0.42
(iv) 1.002 from 17
To subtract 1.002 from 17
Convert the decimals into like decimals by adding zeros
Like decimals are 17.000 and 1.002
17.000
1.002 –

_____

15.998

_____

Hence, the subtraction of the decimal numbers is 15.998

(v) 83 from 92.05

To subtract 83 from 92.05

Convert the decimals into like decimals by adding zeros

Like decimals are 92.05 and 83.00

92.05

83.00 –

_____

9.05

_____

Hence, the subtraction of the decimal numbers is 9.05

4. Simplify:

(i) 3.5 – 2.43 + 0.075

(ii) 7.84 + 0.3 – 4.016

(iii) 2.987 – 1.25 – 0.54

(iv) 52.9 – 231.666 + 204

(v) 8.57 – 6.4432 – 1.70 + 0.683

Solution:

To simplify the expression, first convert the decimal numbers into like decimals and perform addition and subtraction

(i) 3.5 – 2.43 + 0.075

To simplify 3.5 – 2.43 + 0.075

Convert the decimals into like decimal numbers

Like decimals are 3.500, 2.430 and 0.075

= 3.500 – 2.430 + 0.075

= 3.500 + 0.075 – 2.430

= 3.575 – 2.430

= 1.145

Therefore, the simplification of the given expression is 1.145

(ii) 7.84 + 0.3 – 4.016

To simplify 7.84 + 0.3 – 4.016

Convert the decimals into like decimal numbers

Like decimals are 7.840, 0.300 and 4.016

= 7.840 + 0.300 – 4.016

= 8.140 – 4.016

= 4.124

Therefore, the simplification of the given expression is 4.124

(iii) 2.987 – 1.25 – 0.54

To simplify 2.987 – 1.25 – 0.54

Convert the decimals into like decimal numbers

Like decimals are 2.987, 1.250 and 0.540

= 2.987 – 1.250 – 0.540

= 1.737 – 0.540

= 1.197

Therefore, the simplification of the given expression is 1.197

(iv) 52.9 – 231.666 + 204

To simplify 52.9 – 231.666 + 204

Convert the decimals into like decimal numbers

Like decimals are 52.900, 231.666 and 204.000

= 52.900 – 231.666 + 204.000

= 256.900 – 231.666

= 25.234

Therefore, the simplification of the given expression is 25.234

(v) 8.57 – 6.4432 – 1.70 + 0.683

To simplify 8.57 – 6.4432 – 1.70 + 0.683

Convert the decimals into like decimal numbers

Like decimals are 8.5700, 6.4432, 1.7000 and 0.6830

= 8.5700 – 6.4432 – 1.7000 + 0.6830

= 9.253 – 8.1432

= 1.1098

Therefore, the simplification of the given expression is 1.1098

5. From the sum of 75.75 and 4.9 subtract 28.465

Solution:

To subtract 28.465 from the sum of 75.75 and 4.9

To add 75.75 and 4.9

Convert the numbers into like decimal numbers

Like decimals are 75.75 and 4.90

75.75

4.90 +

_____

80.65

_____

Now, to subtract 28.465 from 80.65

Convert the numbers into like decimal numbers

Like decimals are 28.465 and 80.650

80.650
28.465 –

_____

52.185

_____

Hence, the simplification of the sum and subtraction is 52.185

6. Subtract the sum of 8.14 and 12.9 from 32.7
Solution:
To subtract the sum of 8.14 and 12.9 from 32.7
To add 8.14 and 12.9
Convert the numbers into like decimal numbers
Like decimals are 8.14 and 12.90
  8.14
12.90 +

_____

21.04

_____

To subtract 21.04 from 32.7
Convert the numbers into like decimal numbers
Like decimals are 21.04 and 32.70
32.70
21.04 –

_____

11.66

_____

Therefore, the simplification of the sum and subtraction is 11.66

7. Subtract the sum of 34.27 and 159.8 from the sum of 20.937 and 200.6
Solution:
To subtract the sum of 34.27 and 159.8 from the sum of 20.937 and 200.6
To add 34.27 and 159.8
Convert the numbers into like decimal numbers
Like decimals are 34.27 and 159.80
  34.27
159.80 +

_____

194.07

_____

To add 20.937 and 200.6 convert the numbers into like decimal numbers
Like decimals are 20.937 an 200.600
20.937
200.600 +

_____

221.537

_____

To subtract 194.07 from 221.537
Convert the numbers into like decimal numbers
221.537
194.070 –

_____

27.467

_____

Hence, the subtraction of above decimal numbers is 27.467

8. From the sum of 2.43 and 4.349 subtract the sum of 0.8 and 3.15
Solution:
To subtract the sum of 0.8 and 3.15 from sum of 2.43 and 4.349
To add 0.8 and 3.15
Convert the numbers into like decimal numbers
Like decimals are 0.80 and 3.15
0.80
3.15 +

_____

3.95

_____

To add 2.43 and 4.349
Convert the numbers into like decimal numbers
2.430
4.349 +

_____

6.779

_____

To subtract 3.95 from 6.779
Convert the numbers into like decimal numbers
6.779
3.950 –

_____

2.829

_____

Therefore, the subtraction of above decimal numbers is 2.829

9. By how much does the sum of 18.0495 and 34.9644 exceed the sum of 7.6752 and 24.876?
Solution:
To obtain the difference between the sum of 18.0495 and 34.9644 and the sum of 7.6752 and 24.876
Now, to add 18.0495 and 34.9644
Convert the numbers into like decimal numbers
The given decimals are like decimals
18.0495
34.9644 +

_____

53.0139

_____

Now, to add 7.6752 and 24.876
Convert the numbers into like decimal numbers
Like decimals are 7.6752 and 24.8760
7.6752
24.8760 +

_____

32.5512

_____

To subtract 32.5512 from 53.0139
Convert the numbers into like decimal numbers
The given decimals are like decimals
53.0139
32.5512 –

_____

20.4627

_____

Hence, the sum exceed the other decimal numbers by 20.4627

10. What least number must be added to 89.376 to get 1000?
Solution:
The number to be added to 89.376 to get 1000
Subtract 89.376 from 1000

Convert the decimals into like decimal numbers
Like decimals are 89.376 and 1000.000

```
  1000.000
    89.376 –
_____
   910.624
_____
```

Therefore, the number to be added to 89.376 to obtain 1000 is 910.624

EXERCISE 15(C)

1. Multiply:
(i) 5.6 and 8
(ii) 38.46 and 9
(iii) 0.943 and 62
(iv) 0.0453 and 35
(v) 7.5 and 2.5
Solution:
(i) 5.6 and 8
The multiplication of 5.6 and 8 is as follows
5.6 × 8 = 44.8
Hence, 5.6 × 8 = 44.8
(ii) 38.46 and 9
The multiplication of 38.46 and 9 is as follows
38.46 × 9 = 346.14
Hence, 38.46 × 9 = 346.14
(iii) 0.943 and 62
The multiplication of 0.943 and 62 is as follows

```
    943
    62 ×
_____
  1886
5658×
_____
58466
_____
```

We know that,
.943 × 62 = 58.466
Hence 0.943 × 62 = 58.466
(iv) 0.0453 and 35
The multiplication of 0.0453 and 35 is as follows

```
  453
  35×
_____
  2265
1359×
_____
15855
_____
```

We know that,
453 × 35 = 15855
Hence 0.0453 × 35 = 1.5855
(v) 7.5 and 2.5
The multiplication of 7.5 and 2.5 is as follows
```
   75
   25 ×
_____

  375
150×
_____

1875
_____
```
We know that,
75 × 25 = 1875
Hence 7.5 × 2.5 = 18.75

2. Evaluate:
(i) 0.0008 × 26
(ii) 0.038 × 95
(iii) 1.2 × 2.4 × 3.6
(iv) 0.9 × 1.8 × 0.27
(v) 1.5 × 1.5 × 1.5
Solution:
(i) 0.0008 × 26
Since,
8 × 26 =208
0.0008 × 26 = 0.0208
∴ We get 0.0208 on multiplying 0.0008 × 26
(ii) 0.038 × 95
```
   38
   95×
_____

  190
342×
_____

 3610
_____
```
Since,

$38 \times 95 = 3610$

$.038 \times 95 = 3.610$

$= 3.61$

∴ We get 3.61 on multiplying 0.038×95

(iii) $1.2 \times 2.4 \times 3.6$

```
    12
    24 ×
_____
    48
  24×
_____
  288
   36 ×
_____
 1728
 864×
_____
10368
_____
```

Since,

$12 \times 24 \times 36 = 10368$

$1.2 \times 2.4 \times 3.6 = 10.368$

∴ We get 10.368 on multiplying $1.2 \times 2.4 \times 3.6$

(iv) $0.9 \times 1.8 \times 0.27$

```
    9
   18 ×
_____
   72
   9×
_____
  162
  27 ×
_____
 1134
 324 ×
_____
 4374
_____
```

Since,

9 × 18 × 27 = 4374
0.9 × 1.8 × 0.27 = 0.4374
∴ We get 0.4374 on multiplying 0.9 × 1.8 × 0.27
(v) 1.5 × 1.5 × 1.5

    15
    15 ×
_____

    75
    15 ×
_____

225
    15 ×
_____

1125
225 ×
_____

3375
_____

Since,
15 × 15 × 15 = 3375
1.5 × 1.5 × 1.5 = 3.375

3. Multiply each of the following numbers by 10, 100 and 1000:
(i) 3.9
(ii) 2.89
(iii) 0.0829
(iv) 40.3
(v) 0.3725
Solution:
(i) 3.9
3.9 × 10 = 39
3.9 × 100 = 390
3.9 × 1000 = 3900
Hence, 39, 390 and 3900 are the required numbers
(ii) 2.89
2.89 × 10 = 28.9
2.89 × 100 = 289
2.89 × 1000 = 2890.00
= 2890

Hence, 28.9, 289 and 2890 are the required numbers
(iii) 0.0829
0.0829 × 10 = 0.829
0.0829 × 100 = 8.29
0.0829 × 1000 = 82.9
Hence, 0.829, 8.29 and 82.9 are the required numbers
(iv) 40.3
40.3 × 10 = 403
40.3 × 100 = 4030
40.3 × 1000 = 40300
Hence, 403, 4030 and 40300 are the required numbers
(v) 0.3725
0.3725 × 10 = 3.725
0.3725 × 100 = 37.25
0.3725 × 1000 = 372.5

4. Evaluate:
(i) 8.64 ÷ 8
(ii) 0.0072 ÷ 6
(iii) 20.64 ÷ 16
(iv) 1.602 ÷ 15
(v) 13.08 ÷ 4
Solution:
(i) 8.64 ÷ 8
8.64 ÷ 8 = 8.64 / 8
We get
= 1.08
Therefore, the value of 8.64 ÷ 8 = 1.08
(ii) 0.0072 ÷ 6
0.0072 ÷ 6 = (0.0072) / 6
We get
= 0.0012
Therefore, the value of 0.0072 ÷ 6 = 0.0012
(iii) 20.64 ÷ 16
20.64 ÷ 16 = (20.64) / 16
We get
= 1.29
Therefore, the value of 20.64 ÷ 16 = 1.29
(iv) 1.602 ÷ 15

1.602 ÷ 15 = (1.602) / 15
We get
1602 / (1000 × 15)
We get
= 106.8 / 1000
= 0.1068
Therefore, the value of 1.602 ÷ 15 = 0.1068
(v) 13.08 ÷ 4
13.08 ÷ 4 = 13.08 / 4
We get
= 3.27
Therefore, the value of 13.08 ÷ 4 = 3.27

5. Divide each of the following numbers by 10, 100 and 1000:
(i) 49.79
(ii) 0.923
(iii) 0.0704
Solution:
(i) 49.79
49.79 / 10 = 4.979
49.79 / 100 = 0.4979
49.79 / 1000 = 0.04979
Therefore, the required numbers are 4.979, 0.4979 and 0.04979
(ii) 0.923
0.923 / 10 = 0.0923
0.923 / 100 = 0.00923
0.923 / 1000 = 0.000923
Therefore, the required numbers are 0.0923, 0.00923 and 0.000923
(iii) 0.0704
0.0704 / 10 = 0.00704
0.0704 / 100 = 0.000704
0.0704 / 1000 = 0.0000704
Therefore, the required numbers are 0.00704, 0.000704 and 0.0000704

6. Evaluate:
(i) 9.4 ÷ 0.47
(ii) 6.3 ÷ 0.09
(iii) 2.88 ÷ 1.2
(iv) 8.64 ÷ 1.6

(v) 37.188 ÷ 3.6
Solutions:
(i) 9.4 ÷ 0.47
= 9.4 / 0.47
= (94 × 100) / (47 × 10)
On calculating further, we get
= 2 × 10
= 20
Hence, 9.4 ÷ 0.47 = 20
(ii) 6.3 ÷ 0.09
= 6.3 / 0.09
= (63 × 100) / (9 × 10)
We get
= 6300 / 90
= 630 / 9
= 70
Hence, 6.3 ÷ 0.09 = 70
(iii) 2.88 ÷ 1.2
= 2.88 / 1.2
= (288 × 10) / (12 × 100)
We get,
= 2880 / 1200
= 288 / 120
= 2.4
Hence, 2.88 ÷ 1.2 = 2.4
(iv) 8.64 ÷ 1.6
= 8.64 / 1.6
= (8.64 × 10) / (1.6 × 10)
We get,
= 86.4 / 16
= 5.4
Hence, 8.64 ÷ 1.6 = 5.4
(v) 37.188 ÷ 3.6
= 37.188 / 3.6
= (37188 × 10) / (36 × 1000)
We get,
= 371880 / 36000
= 2066 / 200
= 1033 / 100

= 10.33

7. Fill in the blanks with 10, 100, 1000, or 10000 etc:
(i) 7.85 × ……… = 78.5
(ii) 0.442 × ………. = 442
(iii) 0.0924 × ………. = 9.24
(iv) 0.00187 × …....... = 18.7
(v) 2.6 × …….. = 2600
Solution:
(i) 7.85 × **10** = 78.5
(ii) 0.442 × **1000** = 442
(iii) 0.0924 × **100** = 9.24
(iv) 0.00187 × **10000** = 18.7
(v) 2.6 × **1000** = 2600

8. Evaluate:
(i) 9.32 – 28.54 ÷ 10
(ii) 0.234 × 10 + 62.8
(iii) 3.06 × 100 – 889.4 ÷ 100
(iv) 2.86 × 7.5 + 45.4 ÷ 0.2
(v) 97. 82 × 0.03 – 0.54 ÷ 0.3
Solution:
(i) 9.32 – 28.54 ÷ 10
= 9.32 – 2.854
So, we get
= 9.320 – 2.854
= 6.466
Therefore, 9.32 – 28.54 ÷ 10 = 6.466
(ii) 0.234 × 10 + 62.8
Using BODMAS, we get
= 2.34 + 62.80
= 65.14
Therefore, 0.234 × 10 + 62.8 = 65.14
(iii) 3.06 × 100 – 889.4 ÷ 100
Using BODMAS, we get
= 3.06 × 100 – 8.894
= 306 – 8.894
= 306.000 – 8.894
= 297.106

(iv) $2.86 \times 7.5 + 45.4 \div 0.2$
Using BODMAS, we get
$= 2.86 \times 7.5 + 454 \div 2$
On further calculation, we get
$= 2.86 \times 7.5 + 227.00$
$= (286 / 100) \times (75 / 10) + 227.00$
$= (286 / 4) \times (3 / 10) + 227.00$
$= (143 / 2) \times (3 / 10) + 227.00$
We get,
$= 429 / 20 + 227.00$
$= 21.45 + 227.00$
$= 248.45$
(v) $97.82 \times 0.03 - 0.54 \div 0.3$
$= 97.82 \times 0.03 - 0.54 / 0.3$
$= 97.82 \times 0.03 - (0.54 \times 10) / (0.3 \times 10)$
On further calculation, we get
$= 2.9346 - 5.4 / 3$
$= 2.9346 - 1.8$
$= 2.9346 - 1.8000$
We get,
$= 1.1346$

EXERCISE 15(D)

1. Express in paise:
(i) Rs 8.40
(ii) Rs 0.97
(iii) Rs 0.09
(iv) Rs 62.35
Solution:
(i) Rs 8.40
= 8.40 × 100 paise   [WKT 1Rs = 100 Paise]
= (840 / 100) × 100 Paise
On substituting, we get
= 840 Paise
Therefore, Rs 8.40 = 840 paise
(ii) Rs 0.97
= 0.97 × 100 paise   [WKT 1 Rs = 100 Paise]
On calculating, we get
= 97 paise
Therefore, Rs 0.97 = 97 paise
(iii) Rs 0.09
= 0.09 × 100   [WKT 1 Rs = 100 Paise]
We get,
= 9.00 paise
Therefore, Rs 0.09 = 9.00 paise
(iv) Rs 62.35
= 62.35 × 100 paise   [WKT 1 Rs = 100 Paise]
= (6235 / 100) × 100 paise
We get
= 6235 paise
Therefore, Rs 62.35 = 6235 paise

2. Express in rupees:
(i) 55 P
(ii) 8 P
(iii) 695 P
(iv) 3279 P
Solution:
(i) 55 P
We know that,
1 P = 1 / 100 Rs

= 55 / 100
We get,
= Rs 0.55
Hence, the expression for 55 P in the form of rupees is Rs 0.55
(ii) 8 P
We know that,
1 P = 1 / 100 Rs
= 8 / 100
We get,
= Rs 0.08
Hence, the expression for 8 P in the form of rupees is Rs 0.08
(iii) 695 P
We know that,
1 P = 1 / 100 Rs
= 695 / 100
We get,
= Rs 6.95
Hence, the expression for 695 P in the form of rupees is Rs 6.95
(iv) 3279 P
We know that,
1 P = 1 / 100 Rs
= 3279 / 100
We get,
= Rs 32.79
Hence, the expression for 3279 P in the form of rupees is Rs 32.79

3. Express in centimetre (cm):
(i) 6 m
(ii) 8.54 m
(iii) 3.08 m
(iv) 0.87 m
(v) 0.03 m
Solution:
(i) 6 m
We know that 1 m = 100 cm
= 6 × 100
We get,
= 600 cm
Hence, 6 m = 600 cm

(ii) 8.54 m
We know that,
1 m = 100 cm
= 8.54 × 100
We get,
= 854 cm
Hence, 8.54 m = 854 cm
(iii) 3.08
We know that,
1 m = 100 cm
= 3.08 × 100
We get,
= 308 cm
Hence, 3.08 m = 308 cm
(iv) 0.87 m
We know that,
1 m = 100 cm
= 0.87 × 100
We get,
= 87 cm
Hence, 0.87 m = 87 cm
(v) 0.03 m
We know that,
1 m = 100 cm
= 0.03 × 100
We get,
= 3 cm
Hence, 0.03 m = 3 cm

4. Express in metre (m):
(i) 250 cm
(ii) 2328 cm
(iii) 86 cm
(iv) 4 cm
(v) 107 cm
Solution:
(i) 250 cm
We know that,
1 cm = 1 / 100 m

= 250 / 100
= 2.5 m
Therefore, 250 cm = 2.5 m
(ii) 2328 m
We know that,
1 cm = 1 / 100 m
= 2328 / 100
= 23.28 m
Therefore, 2328 cm = 23.28 m
(iii) 86 cm
We know that,
1 cm = 1 / 100 m
= 86 / 100
= 0.86 m
Therefore, 86 cm = 0.86 m
(iv) 4 cm
We know that,
1 cm = 1 / 100 m
= 4 / 100
= 0.04 m
Therefore, 4 cm = 0.04 m
(v) 107 cm
We know that,
1 cm = 1 / 100 m
= 107 / 100
= 1.07 m

5. Express in gramme (gm):
(i) 6 kg
(ii) 5.543 kg
(iii) 0.078 kg
(iv) 3.62 kg
(v) 4.5 kg
Solution:
(i) 6 kg
We know that,
1 kg = 1000 g
= 6 × 1000
= 6000 gm

Therefore, 6 kg = 6000 gm
(ii) 5.543 kg
We know that,
1 kg = 1000 g
= 5.543 × 1000
= 5543 gm
Therefore, 5.543 kg = 5543 gm
(iii) 0.078 kg
 We know that,
1 kg = 1000 g
= 0.078 × 1000
= 78 gm
Therefore, 0.078 kg = 78 gm
(iv) 3.62 kg
We know that,
1 kg = 1000 g
= 3.62 × 1000
= 3620 gm
Therefore, 3.62 kg = 3620 gm
(v) 4.5 kg
 We know that,
1 kg = 1000 g
= 4.5 × 1000
= 4500 gm
Therefore, 4.5 kg = 4500 gm

6. Express in kilogramme (kg):
(i) 7000 gm
(ii) 6839 gm
(iii) 445 gm
(iv) 8 gm
(v) 93 gm
Solution:
(i) 7000 gm
= 7000 / 1000
 We get,
= 7 kg
Hence, 7000 gm = 7 kg
(ii) 6839 gm

= 6839 / 1000
We get,
= 6.839 kg
Hence, 6839 gm = 6.839 kg
(iii) 445 gm
= 445 / 1000
We get,
= 0.445 kg
Hence, 445 gm = 0.445 kg
(iv) 8 gm
= 8 / 1000
We get,
= 0.008 kg
Hence, 8 gm = 0.008 kg
(v) 93 gm
= 93 / 1000
We get,
= 0.093 kg
Hence, 93 gm = 0.093 kg

7. Add (giving answer in rupees):
(i) Rs 5.37 and Rs 12
(ii) Rs 24.03 and 532 paise
(iii) 73 paise and Rs 2.08
(iv) 8 paise and Rs 15.36
Solution:
(i) Rs 5.37 and Rs 12
  5.37
12.00 +
_____
Rs 17.37
_____
∴ Rs 5.37 + Rs 12 = Rs 17.37
(ii) Rs 24.03 and 532 paise
= Rs 24.03 + 532 / 100
(Since, 1 Rs = 100 paise)
= Rs (24.03 + 5.32)
= Rs 29.35
∴ Rs 24.03 + 532 paise = Rs 29.35

(iii) 73 paise and Rs 2.08

= 73 + 2.08 × 100

Since, 100 paise = Rs 1

= 73 + 208

= 281 paise

Now, 281 / 100 = Rs 2.81

∴ 73 paise + Rs 2.08 = Rs 2.81

(iv) 8 paise and Rs 15.36

= 8 + 15.36 × 100

Since, 100 paise = Rs 1

= 8 + 1536

= 1544 paise

Now, 1544 / 100 = Rs 15.44

∴ 8 paise and Rs 15.36 = Rs 15.44

8. Subtract:

(i) Rs 35.74 from Rs 63.22

(ii) 286 paise from Rs 7.02

(iii) Rs 0.55 from 121 paise

Solution:

(i) Rs 35.74 from Rs 63.22

63.22

35.74 –

_____

27.48

_____

∴ The subtraction of Rs 35.74 from Rs 63.22 is Rs 27.48

(ii) 286 paise from Rs 7.02

= Rs 7.02 – 286 paise

= Rs 7.02 – 286 / 100

[1 Rupee = 100 paise]

= Rs 7.02 – 2.86

= Rs 4.16

∴ The subtraction of 286 paise from Rs 7.02 is Rs 4.16

(iii) Rs 0.55 from 121 paise

= Rs 121 / 100 – 0.55

= Rs 1.21 – 0.55

= Rs 0.66

Or .66 × 100 = 66 paise

∴ The subtraction of Rs 0.55 from 121 paise = 66 paise

9. Add (giving answer in metre):
(i) 2.4 m and 1.78 m
(ii) 848 cm and 2.9 m
(iii) 0.93 m and 64 cm
Solution:
(i) 2.4 m and 1.78 m
2.40 m
1.78 m +

_____

4.18 m

_____

∴ The addition of 2.4 m and 1.78 m = 4.18 m
(ii) 848 cm and 2.9 m
= 848 / 100 m + 2.9 m   {1 m = 100 cm}
= 8.48 m + 2.9 m
8.48
2.9 +

_____

11.38

_____

∴ The addition of 848 cm and 2.9 m = 11.38 m
(iii) 0.93 m + 64 cm
= 0.93 m + 64 / 100 cm
= 0.93 m + 0.64 m
0.93
0.64 +

_____

1.57

_____

∴ The addition of 0.93 m + 64 cm = 1.57 m

10. Subtract (giving answer in metre):
(i) 5.03 m from 19.6 m
(ii) 428 cm from 1033 m
(iii) 0.84 m from 122 cm
Solution:
(i) 5.03 m from 19.6 m

= 19.60 m - 5.03 m

We get,

= 14.57 m

∴ The subtraction of 5.03 m from 19.6 m is 14.57 m

(ii) 428 cm from 1033 m

1033 m – 428 cm

= 1033 m – 428 / 100 m

Since, 1 m = 100 cm

= 1033 m – 4.28 m

= (1033.00 – 4.28) m

= 1028.72 m

∴ The subtraction of 428 cm from 1033 m is 1028.72 m

(iii) 0.84 m from 122 cm

= 122 / 100 m – 0.84 m

We get,

= 1.22 m – 0.84 m

= 0.38 m

∴The subtraction of 0.84 m from 122 cm is 0.38 m

11. Add (giving answer in kg):
(i) 2.06 kg and 57.864 kg
(ii) 778 gm and 1.939 kg
(iii) 0.065 kg and 4023 gm
Solution:
(i) 2.06 kg and 57.864 kg

= 2.06 kg + 57.864 kg

Converting the decimals into like decimals

We get,

= 2.060 kg + 57.864 kg

= 59.924 kg

∴ The addition of 2.06 kg and 57.864 kg is 59.924 kg

(ii) 778 gm and 1.939 kg

First convert the 778 gm into kg

We get,

= 778 / 1000 kg + 1.939 kg

= 0.778 kg + 1.939 kg

= 2.717 kg

∴ The addition of 778 gm and 1.939 kg is 2.717 kg

(iii) 0.065kg + 4023 gm

= 0.065 × 1000 gm + 4023 gm

We get,

= 65 gm + 4023 gm

= 4088 gm

Now, converting into kilogram, we get

= 4088 / 1000

= 4.088kg

∴ The addition of 0.065 kg and 4023 gm is 4.088 kg

12. Subtract (giving answer in kg):

(i) 9.462 kg from 15.6 kg

(ii) 4317 gm from 23 kg

(iii) 0.798 kg from 4169 gm

Solution:

(i) 9.462 kg from 15.6 kg

= 15.6 kg – 9.462 kg

Converting the decimals into like decimals

We get,

= 15.600 kg – 9.462 kg

= 6.138 kg

∴ The subtraction of 9.462 kg from 15.6 kg is 6.138 kg

(ii) 4317 gm from 23 kg

= 23 kg – 4317 gm

Converting the 4317gm into kg, we get

= 23 kg – 4317 / 1000 kg

= 23 kg – 4.317 kg

Converting into like decimals, we get

= 23.000 kg – 4.317 kg

= 18.683 kg

∴ The subtraction of 4317 gm from 23 kg is 18.683 kg

(iii) 0.798 kg from 4169 gm

Converting the 4169 gm into kg, we get

4169 / 1000 kg – 0.798 kg

= 4.169 kg – 0.798 kg

= 3.371kg

∴ The subtraction of 0.798 kg from 4169 gm is 3.371 kg

EXERCISE 15(E)

1. The cost of a fountain pen is Rs 13.25. Find the cost of 8 such pens.
Solution:
Given
The cost of a fountain pen = Rs 13.25
The cost of 8 pens can be calculated as below
Cost of 8 fountain pens = 13.25 × 8
= 106.00
= Rs 106
Therefore, the cost of 8 fountain pens is Rs 106

2. The cost of 25 identical articles is Rs 218.25. Find the cost of one article
Solution:
Given
Cost of 25 articles = Rs 218.25
Cost of one article can be calculated as below
Cost of 1 article = 218.25 / 25
= 21825 / (25 × 100)
We get,
= 873 / 100
= Rs 8.73
Therefore, the cost of one article is Rs 8.73

3. The length of an iron rod is 10.32 m. The rod is divided into 4 pieces of equal lengths. Find the length of each piece.
Solution:
Given
The length of an iron rod = 10.32 m
The rod is divided into 4 pieces of equal length
The length of each piece can be calculated as below
= 10.32 / 4
= 2.58 m
Therefore, the length of each piece of rod is 2.58 m

4. What will be the total length of cloth required to make 5 shirts, if 2.15 m of cloth is needed for each shirt?
Given
Cloth required for one shirt = 2.15 m
Cloth required for 5 shirts can be calculated as below

= 2.15 × 5
= 10.75 m
Therefore, cloth required for 5 shirts is 10.75 m

5. Find the distance walked by a boy in 1 ½ hours, if he walks at 2.150 km every hour
Solution:
Given
Distance covered by a boy in 1 hour = 2.150 km
Distance covered in one and half hours can be calculated as below
1 ½ hours = 3 / 2hour
= 2.150 × 3 / 2
= 1.075 × 3
= 3.225 km
Therefore, the distance covered by a boy in one and half hours is 3.225 km

6. 83 note-books are sold at Rs 15.25 each. Find the total money (in rupees) obtained by selling these note-books.
Solution:
Given
Sale price of 1 note-book = Rs 15.25
Sale price of 83 note-books can be calculated as below
Sale price of 83 books = Rs 15.25 × 83
= Rs 1265.75 paise
Therefore, the total amount obtained by selling 83 note-books is Rs 1265.75 paise

7. If length of one bed-cover is 2.1 m, find the total length of 17 bed-covers.
Solution:
Given
Length of one bed-cover =2.1 m
The length of 17 bed-covers can be calculated as below
= 17 × 2.1
= 35.7 m
Therefore, the total length of 17 bed-covers is 35.7 m

8. A piece of rope is 10 m 67 cm long. Another rope is 16 m 32 cm long. By how much is the second rope longer than the first one?
Solution:
Given

Length of one rope = 10 m 67 cm
Another rope length = 16 m 32 cm
The difference between the two rope lengths can be calculated as below
= 16 m 32/ 100 cm – 10 m 67/100 cm
= 16.32 m – 10.67 m
We get,
= 5.65 m
= 5 m 65 cm
Therefore, the length of second rope is longer than the first rope by 5.65 m

9. 12 cakes of soap together weigh 5 kg and 604 gm. Find the weight of
(i) One cake in both kg and gramme
(ii) 5 cakes in kg
Solution:
Given
Weight of 12 cakes of soap = 5 kg and 604 gm
604 gm = 5 kg and 604 / 1000 kg
= 5.604 kg
(i) Weight of 12 cakes = 5.604 kg
Hence, weight of 1 cake = 5.604 / 12
= 0.467kg
Weight in gm = 0.467 × 1000
= 467 gm
(ii) Weight of one cake = 0.467 kg
Weight of 5 cakes can be calculated as below
Weight of 5 cakes = 0.467 × 5
= 2.335 kg

10. Three strings of lengths 50 m 75 cm, 68 m 58 cm and 121 m 3 cm, respectively,
are joined together to get a single string of greatest length, and the length of the
single string obtained. If this single string is then divided into 12 equal pieces, find
the length of each piece.
Solution:
Given
First string 50m 75 cm = 50.75 m
Second string 68 m 58 cm = 68.58 m
Third string 121 m 3 cm = 121.03 m
On joining the length of three strings = 50.75 + 68.58 + 121.03
= 240.36 m

Now,
One string = 240.36 m
Dividing the strings into 12 parts = 240.36 / 12
= 20.03 m
Therefore, the length of each piece is 20.03 m