EXERCISE 4C

1. Multiply:
(i) 0.87 by 10
(ii) 2.948 by 100
(iii) 6.4 by 1000
(iv) 5.8 by 4
(v) 16.32 by 28
(vi) 5. 037 by 8
(vi) 4.6 by 2.1
(viii) 0.568 by 6.4
Solution:

(i) 0.87 by 10
It can be written as
$0.87 \times 10 = 8.7$

(ii) 2.948 by 100
It can be written as
$2.948 \times 100 = 294.8$

(iii) 6.4 by 1000
It can be written as
$6.4 \times 1000 = 6400$

(iv) 5.8 by 4
It can be written as
$5.8 \times 4 = 23.2$

```
  5.8
x  4
-----
 23.2
```

(v) 16.32 by 28
It can be written as
$16.32 \times 28 = 456.96$

```
 16.32
x  28
------
 130.56
 326.4
------
 456.96
```

(vi) 5.037 by 8
It can be written as
$5.037 \times 8 = 40.296$

```
 5.037
x  8
------
 40.296
```

(vi) 4.6 by 2.1
It can be written as
4.6 × 2.1 = 9.66

```
  4.6
x 2.1
-----
  46
x 92
-----
 9.66
-----
```

(viii) 0.568 by 6.4
It can be written as
0.568 × 6.4 = 3.6352

```
 0.568
x 6.4
------
 2272
x34080
------
3.6352
------
```

2. Multiply each number by 10, 100, 1000:
(i) 0.5
(ii) 0.112
(iii) 4.8
(iv) 0.0359
(v) 16.27
(vi) 234.8
Solution:

(i) 0.5
It can be written as
0.5 × 10 = 5
0.5 × 100 = 50
0.5 × 1000 = 500

(ii) 0.112
It can be written as
0.112 × 10 = 1.12
0.112 × 100 = 11.2
0.112 × 1000 = 112

(iii) 4.8
It can be written as
4.8 × 10 = 48
4.8 × 100 = 480
4.8 × 1000 = 4800

(iv) 0.0359

It can be written as
0.0359 × 10 = 0.359
0.0359 × 100 = 3.59
0.0359 × 1000 = 35.9

(v) 16.27
It can be written as
16.27 × 10 = 162.7
16.27 × 100 = 1627
16.27 × 1000 = 16270

(vi) 234.8
It can be written as
234.8 × 10 = 2348
234.8 × 100 = 23480
234.8 × 1000 = 234800

3. Evaluate:
(i) 5.897 x 2.3
(ii) 0.894 x 87
(iii) 0.01 x 0.001
(iv) 0.84 x 2.2 x 4
(v) 4.75 x 0.08 x 3
(vi) 2.4 x 3.5 x 4.8
(vii) 0.8 x 1.2 x 0.25
(viii) 0.3 x 0.03 x 0.003
Solution:

(i) 5.897 x 2.3
We know that
5.897 x 2.3 = 13.5631

```
  5.897
x  2.3
-------
 17691
x11794
-------
 13.5631
```

(ii) 0.894 x 87
We know that
0.894 x 87 = 77.778

```
  0.894
x  87
-------
  6258
x7152
-------
 77.778
```

(iii) 0.01 x 0.001
We know that
0.01 x 0.001 = 0.00001

(iv) 0.84 x 2.2 x 4
It can be written as
= 0.84 x 8.8
= 7.392

```
  84
x 88
----
 672
x672
----
7392
----
```

(v) 4.75 x 0.08 x 3
It can be written as
= 4.75 x 0.24
= 1.1400
= 1.14

```
  4.75
x 0.24
------
 1900
x 950
------
 1.14
------
```

(vi) 2.4 x 3.5 x 4.8
It can be written as
= 8.40 x 4.8
= 8.4 x 4.8
We get
= 40.32

```
  24          8.4
x 35        x 48
----        ----
 120         672
x 72        x336
----        ----
 840        4032
----        ----
```

(vii) 0.8 x 1.2 x 0.25
It can be written as
= 0.96 x 0.25
= 0.2400
= 0.24

```
  96
x 25
----
 480
x192
----
2400
----
```

(viii) 0.3 x 0.03 x 0.003
It can be written as
= 0.009 x 0.003

= 0.000027

4. Divide:
(i) 54.9 by 10
(ii) 7.8 by 100
(iii) 324.76 by 1000
(iv) 12.8 by 4
(v) 27.918 by 9
(vi) 4.672 by 8
(vii) 4.32 by 1.2
(viii) 7.644 by 1.4
(ix) 4.8432 by 0.08
Solution:

(i) 54.9 by 10
It can be written as
54.9 ÷ 10 = 5.49

(ii) 7.8 by 100
It can be written as
7.8 ÷ 100 = 0.078

(iii) 324.76 by 1000
It can be written as
324.76 ÷ 1000 = 0.32476

(iv) 12.8 by 4
It can be written as
12.8 ÷ 4 = 3.2

(v) 27.918 by 9
It can be written as
27.918 ÷ 9 = 3.102

(vi) 4.672 by 8
It can be written as
4.672 ÷ 8 = 0.584

```
   0.584
8 | 4.672
  - 40
    67
  - 64
    32
  - 32
     0
```

(vii) 4.32 by 1.2
It can be written as

4.32 ÷ 1.2
Multiplying by 100
432 ÷ 120 = 3.6

```
      3.6
120 | 432
    - 360
    -----
      720
    - 720
    -----
        0
```

(viii) 7.644 by 1.4
It can be written as
7.644 ÷ 1.4
Multiplying by 1000
7644 ÷ 1400 = 5.46

```
      5.46
1400 | 7644
     - 7000
     ------
       6440
     - 5600
     ------
       8400
     - 8400
     ------
          0
```

(ix) 4.8432 by 0.08
It can be written as
4.8432 ÷ 0.08
So we get
48432 ÷ 800 = 60.54

```
      60.54
800 | 48432
    - 4800
    ------
      4320
    - 4000
    ------
      3200
    - 3200
    ------
         0
```

5. Divide each of the given numbers by 10, 100, 1000 and 10000
(i) 2.1
(ii) 8.64
(iii) 5-01
(iv) 0.0906

(v) 0.125
(vi) 111.11
Solution:

(i) 2.1
It can be written as
2.1 ÷ 10 = 0.21
2.1 ÷ 100 = 0.021
2.1 ÷ 1000 = 0.0021
2.1 ÷ 10000 = 0.00021

(ii) 8.64
It can be written as
8.64 ÷ 10 = 0.864
8.64 ÷ 100 = 0.0864
8.64 ÷ 1000 = 0.00864
8.64 ÷ 10000 = 0.000864

(iii) 5.01
It can be written as
5.01 ÷ 10 = 0.501
5.01 ÷ 100 = 0.0501
5.01 ÷ 1000 = 0.00501
5.01 ÷ 10000 = 0.000501

(iv) 0.0906
It can be written as
0.0906 ÷ 10 = 0.00906
0.0906 ÷ 100 = 0.000906
0.0906 ÷ 1000 = 0.0000906
0.0906 ÷ 10000 = 0.00000906

(v) 0.125
It can be written as
0.125 ÷ 10 = 0.0125
0.125 ÷ 100 = 0.00125
0.125 ÷ 1000 = 0.000125
0.125 ÷ 10000 = 0.0000125

(vi) 111.11
It can be written as
111.11 ÷ 10 = 11.111
111.11 ÷ 100 = 1.1111
111.11 ÷ 1000 = 0.11111
111.11 ÷ 10000 = 0.011111

6. Evaluate :
(i) 9.75 ÷ 5
(ii) 4.4064 ÷ 4
(iii) 27.69 ÷ 30

(iv) 19.25 ÷ 25
(v) 20.64 ÷ 16
(vi) 3.204 ÷ 9
(vii) 0.125 ÷ 25
(viii) 0.14616 ÷ 72
(ix) 0.6227 ÷ 1300
(x) 257.894 ÷ 0.169
(xi) 6.3 ÷ $(0.3)^2$
Solution:

(i) 9.75 ÷ 5
We get
9.75 ÷ 5 = 1.95

```
      1.95
5 | 9.75
  - 5
  ----
    47
  - 45
  ----
    25
  - 25
  ----
     0
```

(ii) 4.4064 ÷ 4
We get
4.4064 ÷ 4 = 1.016

(iii) 27.69 ÷ 30
We get
27.69 ÷ 30 = 0.923

```
      0.923
30 | 27.69
   - 270
   -----
     69
   - 60
   -----
     90
   - 90
   -----
      0
```

(iv) 19.25 ÷ 25
We get
19.25 ÷ 25 = 0.77

```
      0.77
25 | 19.25
   - 175
   -----
     175
   - 175
   -----
      0
```

(v) 20.64 ÷ 16
We get
20.64 ÷ 16 = 1.29

```
      1.29
16 | 20.64
   - 16
   ----
     46
   - 32
   ----
    144
   - 144
   -----
      0
```

(vi) 3.204 ÷ 9
We get
3.204 ÷ 9 = 0.356

```
     0.356
9 | 3.204
  - 27
  ----
    50
  - 45
  ----
     54
  - 54
  ----
     0
```

(vii) 0.125 ÷ 25
We get
0.125 ÷ 25 = 0.005

```
     0.005
25 | 0.125
   - 125
   -----
       0
```

(viii) 0.14616 ÷ 72
We get
0.14616 ÷ 72 = 0.00203

```
     0.00203
72 | 0.14616
   - 144
   -----
     216
   - 216
   -----
       0
```

(ix) 0.6227 ÷ 1300
We get
0.6227 ÷ 1300 = 0.000479

```
      0.000479
1300 | 0.6227
     - 5200
       10270
     - 9100
       11700
     - 11700
         0
```

(x) 257.894 ÷ 0.169
Multiplying by 1000
257894 ÷ 169 = 1526

```
      1526
169 | 257894
    -  169
       888
    -  845
       439
    -  338
       1014
    -  1014
         0
```

(xi) 6.3 ÷ $(0.3)^2$
We can write it as
= 6.3 ÷ (0.3 × 0.3)
By further calculation
= 6.3 ÷ 0.09
Multiply both sides by 100
= 630 ÷ 9 = 70

7. Evaluate:
(i) 4.3 x 0.52 x 0.3
(ii) 3.2 x 2.5 x 0.7
(iii) 0.8 x 1.5 x 0.6
(iv) 0.3 x 0.3 x 0.3
(v) 1.2 x 1.2 x 0.4
(vi) 0.4 x 0.04 x 0.004
(vii) 0.5 x 0.6 x 0.7
(viii) 0.5 x 0.06 x 0.007
Solution:

(i) 4.3 x 0.52 x 0.3
We know that

$$\begin{array}{r} 0.52 \\ \times\ 4.3 \\ \hline 156 \\ \times\ 208 \\ \hline 2.236 \\ \times\ 0.3 \\ \hline 6708 \\ \times\ 0 \\ \hline 0.6708 \end{array}$$

Here the sum of decimal places = 1 + 2 + 1 = 4
So we get
4.3 x 0.52 x 0.3 = 0.6708

(ii) 3.2 x 2.5 x 0.7
We know that

$$\begin{array}{r} 3.2 \\ \times\ 2.5 \\ \hline 160 \\ \times\ 64 \\ \hline 8 \\ \times\ 0.7 \\ \hline 5600 \\ \times\ 0 \\ \hline 5.6 \end{array}$$

Here the sum of decimal places = 1 + 1 + 1 = 3
So we get
3.2 x 2.5 x 0.7 = 5.600 or 5.6

(iii) 0.8 x 1.5 x 0.6
We know that

$$\begin{array}{r} 1.5 \\ \times\ 0.8 \\ \hline 120 \\ \times\ 0 \\ \hline 1.2 \\ \times\ 0.6 \\ \hline 720 \\ \times\ 0 \\ \hline 0.72 \end{array}$$

Here the sum of decimal places = 1 + 1 + 1 = 3
So we get
0.8 x 1.5 x 0.6 = 0.720 or 0.72

(iv) 0.3 x 0.3 x 0.3
We know that

```
   0.3
 x 0.3
-----
   9
 x 0
-----
  0.09
 x 0.3
-----
 0.027
-----
```

Here the sum of decimal places = 1 + 1 + 1 = 3
So we get
0.3 x 0.3 x 0.3 = 0.027

(v) 1.2 x 1.2 x 0.4
We know that

```
   1.2
 x 1.2
-----
  0.24
 x 12
-----
  1.44
 x 0.4
-----
  576
 x 0
-----
 0.576
-----
```

Here the sum of decimal places = 1 + 1 + 1 = 3
So we get
1.2 x 1.2 x 0.4 = 0.576

(vi) 0.4 x 0.04 x 0.004
We know that

```
   0.004
  x0.04
-------
    16
  0000x
 0000xx
-------
 0.00016
   x0.4
-------
0.000064
-------
```

Here the sum of decimal places = 1 + 2 + 3 = 6
So we get
0.4 x 0.04 x 0.004 = 0.000064

(vii) 0.5 x 0.6 x 0.7
We know that

```
  0.5
 x0.6
-----
  0.3
 00x
-----
  0.3
 x0.7
-----
  210
 000x
-----
 0.21
-----
```

Here the sum of decimal places = 1 + 1 + 1 = 3
So we get
0.5 x 0.6 x 0.7 = 0.210 or 0.21

(viii) 0.5 x 0.06 x 0.007
We know that

```
  0.007
 x0.06
-------
 0.00042
    x0.5
-------
 0.00021
-------
```

Here the sum of decimal places = 1 + 2 + 3 = 5
So we get
0.5 x 0.06 x 0.007 = 0.00021

8. Evaluate:
(i) $(0.9)^2$
(ii) $(0.6)^2$ x 0.5
(iii) 0.3 x $(0.5)^2$
(iv) $(0.4)^3$
(v) $(0.2)^3$ x 5
(vi) $(0.2)^3$ x 0.05
Solution:

(i) $(0.9)^2$
It can be written as
0.9 x 0.9 = 0.81
Here the sum of decimal places is 1 + 1 = 2

(ii) $(0.6)^2$ x 0.5
It can be written as
= 0.6 x 0.6 x 0.5
On further calculation
= 0.36 x 0.5
= 0.180 or 0.18

Here the sum of decimal places is 1 + 1 + 1 = 3

(iii) $0.3 \times (0.5)^2$
It can be written as
= 0.3 x 0.5 x 0.5
On further calculation
= 0.3 x 0.25
= 0.075
Here the sum of decimal places is 1 + 1 + 1 = 3

(iv) $(0.4)^3$
It can be written as
= 0.4 x 0.4 x 0.4
On further calculation
= 0.16 x 0.4
= 0.064
Here the sum of decimal places is 1 + 1 + 1 = 3

(v) $(0.2)^3 \times 5$
It can be written as
= 0.2 x 0.2 x 0.2 x 5
On further calculation
= 0.008 x 5
= 0.40 or 0.4
Here the sum of decimal places is 1 + 1 + 1 = 3

(vi) $(0.2)^3 \times 0.05$
It can be written as
= 0.2 x 0.2 x 0.2 x 0.05
On further calculation
= 0.008 x 0.05
= 0.00040
Here the sum of decimal places is 1 + 1 + 1 + 1 + 1 = 5

9. Find the cost of 36.75 kg wheat at the rate of ₹12.80 per kg.
Solution:

It is given that
Weight of wheat = 36.75 kg
Cost of wheat per kg = ₹12.80
So the cost of 36.75 kg wheat = 36.75 x 12.80 = ₹470.40

$$\begin{array}{r} 36.75 \\ \times 12.80 \\ \hline 470.4 \\ \hline \end{array}$$

10. The cost of a pen is ₹56.15. Find the cost of 16 such pens.
Solution:

It is given that
Cost of a pen = ₹56.15

So the cost of 16 such pens = 16 x 56.15 = ₹898.40

$$\begin{array}{r} 56.15 \\ \times 16 \\ \hline 898.4 \\ \hline \end{array}$$

11. Evaluate:
(i) 0.0072 ÷ 0.06
(ii) 0.621 ÷ 0.3
(iii) 0.0532 ÷ 0.005
(iv) 0.01162 ÷ 0.14
(v) (7.5 x 40.4) ÷ 25
(vi) 2.1 ÷ (0.1 x 0.1)
Solution:

(i) 0.0072 ÷ 0.06
Multiplying both numerator and denominator by 100
= (0.0072 x 100)/ (0.06 x 100)
On further calculation
= 0.72/6
= 0.12

(ii) 0.621 ÷ 0.3
Multiplying both numerator and denominator by 10
= (0.621 x 10)/ (0.3 x 10)
On further calculation
= 6.21/3
= 2.07

(iii) 0.0532 ÷ 0.005
Multiplying both numerator and denominator by 1000
= (0.0532 x 1000)/ (0.005 x 1000)
On further calculation
= 53.2/5
= 10.64

(iv) 0.01162 ÷ 0.14
Multiplying both numerator and denominator by 100
= (0.01162 x 100)/ (0.14 x 100)
On further calculation
= 1.162/14
= 0.083

(v) (7.5 x 40.4) ÷ 25
It can be written as
= 303/25
= 12.12

(vi) 2.1 ÷ (0.1 x 0.1)
Multiplying both numerator and denominator by 100

= (2.1 x 100)/ (0.01 x 100)
On further calculation
= 210/1
= 210

12. Fifteen identical articles weigh 31.50 kg. Find the weight of each article.
Solution:

It is given that
Total weight of 15 identical articles = 31.50 kg
So the weight of each article = 31.50 – 15 = 2.1 kg

Hence, the weight of each article is 2.1 kg.

13. The product of two numbers is 211.2. If one of these two numbers is 16.5, find the other number.
Solution:

It is given that
Product of two numbers = 211.2
One of the two numbers = 16.5
So the other number = 211.2 ÷ 16.5
On further calculation
= (211.2 x 10)/ (16.5 x 10)
So we get
= 2112/165
= 12.8

14. One dozen identical articles cost ₹45.96. Find the cost of each article.
Solution:

It is given that
Cost of one dozen articles = ₹45.96
We know that one dozen = 12
So the cost of one article = 45.96 ÷ 12 = ₹3.83