EXERCISE 15(C)

Question 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

(vi) 4.23 and 0.8

(vii) 83.54 and 0.07

(viii) 0.636 and 1.83

(ix) 6.4564 and 1000

(x) 0.076 and 100

Solution:

(i) 5.6 x 8 = 44.8

(ii) 38.46 x 9 = 346.14

(iii) 0.943 and 62

$$\begin{array}{r} 943 \\ \times 62 \\ \hline 1886 \\ 5658\times \\ \hline 58466 \end{array}$$

Since, $.943 \times 62 = 58{\cdot}466$

$\therefore \quad 0{\cdot}943 \times 62 = \mathbf{58{\cdot}466}$

(*iv*)
$$\begin{array}{r} 453 \\ \times 35 \\ \hline 2265 \\ 1359\times \\ \hline 15855 \end{array}$$

Since, $453 \times 35 = 15855$

$\therefore\ 0{\cdot}0453 \times 35 = \mathbf{1{\cdot}5855}$

(*v*) 7·5 and 2·5

$$\begin{array}{r} 75 \\ \times 25 \\ \hline 375 \\ 150\times \\ \hline 1875 \end{array}$$

Since, 75 × 25 = 1875

∴ 7·5 × 2·5 = **18·75**

(*vi*) 4·23 and 0·8

Since, 423 × 8 = 3384

∴ 4·23 × 0·8 = **3·384**

(*vii*) 83·54 and 0·07

Since, 8354 × 7 = 58478

∴83·54 × 0·07 = **5·8478**

(*viii*) 0·636 and 1·83

$$\begin{array}{r} 636 \\ \times 183 \\ \hline 1908 \\ 5088\times \\ 636\times\times \\ \hline 116388 \end{array}$$

Since, 636 × 183 = 116388

∴ 0·636 and 1·83 = **1·16388**

(*ix*) 6·4564 × 1000

Since, 64564 × 1000 = 64564000

∴ 6·4564 × 1000 = **6456·4000**

= **6456·4**

(*x*) 0·076 and 100

Since, 76 × 100 = 7600

∴ 0·076 × 100 = **7·600** = 7· 6

Question 2.

Evaluate :

(i) 0.0008 x 26

(ii) 0.038 x 95

(iii) 1.2 x 2.4 x 3.6

(iv) 0.9 x 1.8 x 0.27

(v) 1.5 x 1.5 x 1.5

(vi) 0.025 x 0.025

(vii) 0.2 x 0.002 x 0.001

Solution:

(i) 0.0008 – 26

Since, 8 x 26 = 208

0.0008 x 26 = 0.0208

(*ii*) **0·038 × 95**

38
×95
190
342×
3610

Since, 38 × 95 = 3610

∴ ·038 × 95 = **3·610 = 3·61**

(*iii*) 1·2 × 2·4 × 3·6

12
×24
48
24×
288
×36
1728
864×
10368

Since, 12 × 24 × 36 = 10368

∴ 1·2 × 2·4 × 3·6 = **10·368**

(*iv*) 0·9 × 1·8 × 0·27

9
×18
72
9×
162
×27
1134
324×
4374

Since, 9 × 18 × 27 = 4374

∴ 0·9 × 1·8 × 0·27 = **0·4374**

(*v*) 1·5 × 1·5 × 1·5

15
×15
75
15×
225
×15
1125
225×
3375

Since, $15 \times 15 \times 15 = 3375$

$1{\cdot}5 \times 1{\cdot}5 \times 1{\cdot}5 = \mathbf{3{\cdot}375}$

(*vi*) $0{\cdot}025 \times 0{\cdot}025$

Since, $25 \times 25 = 625$

$\therefore\ 0{\cdot}025 \times 0{\cdot}025 = \mathbf{0{\cdot}000625}$

(*vii*) $0{\cdot}2 \times 0{\cdot}002 \times 0{\cdot}001$

Since, $2 \times 2 \times 1 = 4$

$\therefore\ 0{\cdot}2 \times 0{\cdot}002 \times 0{\cdot}001 = \mathbf{0{\cdot}0000004}$

Question 3.

Multiply each of the following numbers by 10, 100 and 1000 :

(i) 3.9

(ii) 2.89

(in) 0.0829

(iv) 40.3

(v) 0.3725

Solution:

(i) 3.9 x 10 = 39

3.9 x 100 = 390.0 = 390

3.9 x 1000 = 3900.0 =3900

(ii) 2.89 x 10 = 28.9

2.89 x 100 = 289

2.89 x 1000 = 2890.00 = 2890

(iii) 0.0829 x 10 = 0.829

0.0829 x 100 = 8.29

0.0829 x 1000 = 82.9

(iv) 40.3 x 10 = 403

40.3 x 100 = 4030

40.3 x 1000 = 40300

(v) 0.3725 x 10 = 3.725

0.3725 x 100 = 37.25

0.3725 x 1000 = 372.5

Question 4.

Evaluate :

(i) 8.64 ÷ 8

(ii) 0.0072 ÷ 6

(iii) 20.64 ÷ 16

(iv) 1.602 ÷ 15

(v) 13.08 ÷ 4

(vi) 3.204 ÷ 9

(vii) 3.024 ÷ 12

(viii) 5.15 ÷ 5

(ix) 3 ÷ 5

Solution:

$$(i)\ 8.64 \div 8 = \frac{8.64}{8} = 1.08$$

$$(ii)\ 0.0072 \div 6 = \frac{0.0072}{6} = 0.0012$$

$$(iii)\ \frac{20{\cdot}64}{16} = \mathbf{1{\cdot}29}$$

$$(iv)\ 1.602 \div 15 = \frac{1.602}{15} = \frac{1602}{1000 \times 15}$$

$$= \frac{106.8}{1000} = 0.1068$$

$$(v)\ \frac{13{\cdot}08}{4} = \mathbf{3{\cdot}27}$$

$$(vi)\ \frac{3{\cdot}204}{9} = \mathbf{0{\cdot}356}$$

$$(vii)\ 3.024 \div 12 = \frac{3.024}{12} = 0.252$$

$$(viii)\ \frac{5{\cdot}15}{5} = \mathbf{1{\cdot}03}$$

$$(ix)\ 3 \div 5 = \frac{3}{5} = 0.6$$

Question 5.

Divide each of the following numbers by 10,100 and 1000 :

(i) 49.79

(ii) 0.923

(iii) 0.0704

Solution:

$$(i)\ \frac{49\cdot79}{10} = 4\cdot979$$

$$\frac{49\cdot79}{100} = 0\cdot4979$$

$$\frac{49\cdot79}{1000} = 0\cdot04979$$

$$(ii)\ \frac{0\cdot923}{10} = 0\cdot0923$$

$$\frac{0\cdot923}{100} = 0\cdot00923$$

$$\frac{0\cdot923}{1000} = 0\cdot000923$$

$$(iii)\ \frac{0\cdot0704}{10} = 0\cdot00704$$

$$\frac{0\cdot0704}{100} = 0\cdot000704$$

$$\frac{0\cdot0704}{1000} = 0\cdot0000704$$

Question 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

(vi) 16.5 ÷ 0.15

(vii) 3.2 ÷ 0.005

(viii) 3.24 ÷ 0.0016

Solution:

(*i*) $\frac{9.4}{0.47} = \frac{94 \times 100}{47 \times 10} = 2 \times 10 = \mathbf{20}$

(*ii*) $\frac{6{\cdot}3}{0{\cdot}09} = \frac{63 \times 100}{9 \times 10} = \frac{630}{9} = \mathbf{70}$

(*iii*) $\frac{2{\cdot}88}{1{\cdot}2} = \frac{288 \times 10}{12 \times 100} = \frac{288}{120} = \mathbf{2{\cdot}4}$

or $\frac{2{\cdot}88}{1{\cdot}2} = \frac{28{\cdot}8}{12} = \mathbf{2{\cdot}4}$

(*iv*) $8.64 \div 1.6 = \frac{8.64}{1.6} = \frac{8.64 \times 10}{1.6 \times 10}$

$= \frac{86.4}{16} = \mathbf{5.4}$

(*v*) $\frac{37{\cdot}188}{3{\cdot}6} = \frac{371{\cdot}88}{36} = \mathbf{10{\cdot}33}$

or $\frac{37{\cdot}188}{3{\cdot}6} = \frac{37188 \times 10}{36 \times 1000}$

$= \frac{371880}{36000} = \frac{2066}{200} = \frac{1033}{100}$

$= \mathbf{10{\cdot}33}$

(*vi*) $\frac{16{\cdot}5}{0{\cdot}15} = \frac{165 \times 100}{15 \times 10} = \frac{16500}{150} = \mathbf{110}$

or $\frac{16{\cdot}5}{0{\cdot}15} = \frac{1650}{15} = \mathbf{110}$

(*vii*) $3.2 \div 0.005 = \frac{3.2}{0.005} = \frac{3.2 \times 1000}{0.005 \times 1000}$

$= \frac{3200}{5} = \mathbf{640}$

(*viii*) $\frac{3{\cdot}24}{0{\cdot}0016} = \frac{324 \times 10000}{100 \times 16}$

$= \frac{3240000}{1600} = \mathbf{2025}$

or $\frac{3{\cdot}24}{0{\cdot}0016} = \frac{324 \times 10000}{00016 \times 100}$

$= \frac{32400}{16} = \mathbf{2025}$

Question 7.

Fill in the blanks with 10,100,1000, or 10000 etc.:

(i) 7.85 x ..... = 78.5

(ii) 0.442 x ..... = 442

(in) 0.0924 x..... = 9.24

(iv) 0.00187 x .....= 18-7
(v) 2.6 x .....= 2600
(vi) 0.08 x .....= 80
(vii) 96.7 ÷ ..... = 0.967
(viii) 5.2 ÷.....= 0.52
(ix) 33.15 ÷.....= 0.03315
(x) 0.7 ÷ .....= 0.007
(xi) 0.00672 x .....= 67.2

Solution:

(i) 7.85 x **10** = 78.5
(ii) 0.442 x **1000** = 442
(iii) 0.0924 x **100** = 9.24
(iv) 0.00187 x **10000** = 18.7
(v) 2.6 x **1000** = 2600
(vi) 0.08 x **1000** = 80
(vii) 96.7 ÷ **100** = 0.967
(viii) 5.2 ÷ **10** = 0.52
(ix) 33.15 ÷ **1000** = 0.03315
(x) 0.7 ÷ **100** = 0.007
(xi) 0.00672 x **10000** = 67.2

Question 8.

Evaluate :
(i) 9 32 – 28.54 ÷ 10
(ii) 0.234 x 10 + 62.8
(iii) 3.06 x 100 – 889.4 ÷ 100
(iv) 2.86 x 7.5 + 45.4 ÷ 0.2

(i) 9.32 – 28.54 ÷ 10
= 9.32 – 2.854

$= 9.320 - 2.854 = 6.466$

(*ii*) $0{\cdot}234 \times 10 + 62{\cdot}8$ (Using BODMAS)

$2{\cdot}34 + 62{\cdot}80 = \mathbf{65{\cdot}14}$

(*iii*) $3{\cdot}06 \times 100 - 889{\cdot}4 \div 100$

(Using BODMAS)

$3{\cdot}06 \times 100 - 8{\cdot}894$

$306 - 8{\cdot}894$

$306{\cdot}000 - 8{\cdot}894 = \mathbf{297{\cdot}106}$

(*iv*) $2{\cdot}86 \times 7{\cdot}5 + 45{\cdot}4 \div 0{\cdot}2$

(Using BODMAS)

$2{\cdot}86 \times 7{\cdot}5 + 454 \div 2$

$2{\cdot}86 \times 7{\cdot}5 + 227{\cdot}00$

$\frac{286}{100} \times \frac{75}{10} + 227{\cdot}00$

$\frac{286}{4} \times \frac{3}{10} + 227{\cdot}00$

$\frac{143}{2} \times \frac{3}{10} + 227{\cdot}00$

$\frac{429}{20} + 227{\cdot}00$

$21{\cdot}45 + 227{\cdot}00 = \mathbf{248{\cdot}45}$

(*v*) $97.82 \times 0.03 - 0.54 \div 0.3$

$= 97.82 \times 0.03 - \frac{0.54}{0.3}$

$= 97.82 \times 0.03 - \frac{0.54 \times 10}{0.3 \times 10}$

$= 2.9346 - \frac{5.4}{3}$

$= 2.9346 - 1.8$

$= 2.9346 - 1.8000 = 1.1346$