



### Exercise 3D

Q5

**Answer :**

$$\begin{aligned} \text{(i)} \quad & 740 \times 105 \\ &= 740 \times (100 + 5) \\ &= 740 \times 100 + 740 \times 5 && \text{(Using distributive law of multiplication over addition)} \\ &= 74000 + 3700 \\ &= 77700 \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & 245 \times 1008 \\ &= 245 \times (1000 + 8) \\ &= 245 \times 1000 + 245 \times 8 && \text{(Using distributive law of multiplication over addition)} \\ &= 245000 + 1960 \\ &= 246960 \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & 947 \times 96 \\ &= 947 \times (100 - 4) \\ &= 947 \times 100 - 947 \times 4 && \text{(Using distributive law of multiplication over subtraction)} \\ &= 94700 - 3788 \\ &= 90912 \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & 996 \times 367 \\ &= 367 \times (1000 - 4) \\ &= 367 \times 1000 - 367 \times 4 && \text{(Using distributive law of multiplication over subtraction)} \\ &= 367000 - 1468 \\ &= 365532 \end{aligned}$$

Q6

**Answer :**

Distributive property of multiplication over addition states that  $a(b + c) = ab + ac$

Distributive property of multiplication over subtraction states that  $a(b - c) = ab - ac$

$$\begin{aligned} \text{(i)} \quad & 3576 \times 9 \\ &= 3576 \times (10 - 1) \\ &= 3576 \times 10 - 3576 \times 1 \\ &= 35760 - 3576 \\ &= 32184 \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & 847 \times 99 \\ &= 847 \times (100 - 1) \\ &= 847 \times 100 - 847 \times 1 \\ &= 84700 - 847 \\ &= 83853 \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & 2437 \times 999 \\ &= 2437 \times (1000 - 1) \\ &= 2437 \times 1000 - 2437 \times 1 \\ &= 2437000 - 2437 \\ &= 2434563 \end{aligned}$$

Q7

**Answer :**

(i)

4 5 6

$$\begin{array}{r}
 \phantom{4}58 \\
 \times 67 \\
 \hline
 3206 \quad \text{Multiplication by 7} \\
 27480 \quad \text{Multiplication by 60} \\
 \hline
 30686
 \end{array}$$

$$458 \times 67 = 30686$$

(ii)

$$\begin{array}{r}
 3709 \\
 \times 89 \\
 \hline
 33381 \quad \text{Multiplication by 9} \\
 296720 \quad \text{Multiplication by 80} \\
 \hline
 330101
 \end{array}$$

$$3709 \times 89 = 330101$$

(iii)

$$\begin{array}{r}
 4617 \\
 \times 234 \\
 \hline
 18468 \quad \text{Multiplication by 4} \\
 138510 \quad \text{Multiplication by 30} \\
 923400 \quad \text{Multiplication by 200} \\
 \hline
 1080378
 \end{array}$$

$$4617 \times 234 = 1080378$$

(iv)

$$\begin{array}{r}
 15208 \\
 \times 542 \\
 \hline
 30416 \quad \text{Multiplication by 2} \\
 608320 \quad \text{Multiplication by 40} \\
 7604000 \quad \text{Multiplication by 500} \\
 \hline
 8242736
 \end{array}$$

$$\begin{array}{r} 8242736 \\ \hline 15208 \times 542 = 8242736 \end{array}$$

Q8

**Answer :**

Largest three-digit number = 999

Largest five-digit number = 99999

∴ Product of the two numbers =  $999 \times 99999$

$$= 999 \times (100000 - 1)$$

(Using distributive law)

$$= 99900000 - 999$$

$$= 99899001$$

\*\*\*\*\* END \*\*\*\*\*