



Exercise 3D

1. Fill in the blanks to make each of the following a true statement.

i) $246 \times 1 = 246$

ii) $1369 \times 0 = 0$

iii) $593 \times 188 = 188 \times 593$

iv) $286 \times 753 = 753 \times 286$

v) $38 \times (91 \times 37) = 91 \times (38 \times 37)$

vi) $13 \times 100 \times 1000 = 1300000$

vii) $59 \times 66 + 59 \times 34 = 59 \times (66 + 34)$

viii) $68 \times 95 = 68 \times 100 - 68 \times 5$

2. State the property used in each of the following statements.

i) $19 \times 17 = 17 \times 19$

→ Commutative law

ii) (16×32) is a whole number

→ Closure Property

iii) $(29 \times 36) \times 18 = 29 \times (36 \times 18)$

→ Associative law

iv) $1480 \times 1 = 1480$

→ Multiplicative Property

v) $1732 \times 0 = 0$

→ Multiplicative property of 0

vi) $72 \times 98 + 72 \times 2 = 72 \times 100$

→ Multiplicative law of distribution over addition

vii) $63 \times 126 - 63 \times 26 = 63 \times (126 - 26)$

→ Multiplicative law of multiplication over subtraction

3. Find the value of each of the following using various properties

i) $\Rightarrow 647 \times 13 + 647 \times 7$

$= 647 \times (13 + 7)$

$= (647 \times 20)$

$= 12940$

(ii) $8759 \times 94 + 8759 \times 6$

$$= 8759 \times (94 + 6)$$

$$= (8759 \times 100)$$

$$= 875900$$

(iii) $(7459 \times 999 + 7459)$

$$= 7459 \times (1000 - 1)$$

$$= (7459 \times 1000) - (7459 \times 1)$$

$$= (7459000 - 7459) =$$

Addition:

Der (iv) $9870 \times 561 - 9870 \times 461$

$$\rightarrow 9870 \times (561 - 461)$$

$$= (9870 \times 100)$$

of 1 $= 987000$

2) (v) $569 + * \times 17 + 569 \times 13 + 569 \times 70$

$$= 569 \times (17 + 13 + 70)$$

$$= (569 \times 100)$$

$$= 56900$$

(vi) $16825 \times 16825 - 16825 \times 6825$

$$= 16825 \times (16825 - 6825)$$

$$= (16825 \times 10000)$$

$$= 168250000$$

4 Determine each of the following products by suitable rearrangements:

c) $2 \times 1658 \times 50$

$$\rightarrow (2 \times 50) \times 1658$$

$$= 100 \times 1658$$

$$= 165800$$

cii) $4 \times 927 \times 25$

$$\rightarrow (4 \times 25) \times 927$$

$$= 100 \times 927$$

$$= 92700$$

ciii) $625 \times 20 \times 8 \times 50$

$$\rightarrow (20 \times 8 \times 50) \times 625$$

$$= 8000 \times 625$$

$$= 50,00,000$$

civ) $574 \times 625 \times 16$

$$\rightarrow 574 \times (625 \times 16)$$

$$= 574 \times 10000$$

$$= 57,40,000$$

(v) $250 \times 60 \times 50 \times 8$

$$\rightarrow 250 \times (60 \times 50 \times 8)$$

$$= 250 \times 24000$$

$$= 60,00,000$$

(vi) $8 \times 125 \times 40 \times 25$

$$\rightarrow 125 \times (8 \times 40 \times 25)$$

$$= 8000 \times 125$$

$$= 10,00,000$$

5. Find each of the following products, using distributive law:

(i) 740×105

$$\begin{aligned} &\rightarrow 740 \times (100 + 5) \\ &= 740 \times 100 + 740 \times 5 \\ &= 74000 + 3700 = 77700 \end{aligned}$$

(ii) 245×1008

$$\begin{aligned} &\rightarrow 245 \times (1000 + 8) \\ &= 245 \times 1000 + 245 \times 8 \\ &= 245000 + 1960 = 246960 \end{aligned}$$

(iii) 947×96

$$\begin{aligned} &\rightarrow 947 \times (100 - 4) \\ &= 947 \times 100 - 947 \times 4 \\ &= 94700 - 3788 = 90912 \end{aligned}$$

(iv) 996×367

$$\begin{aligned} &\rightarrow 367 \times (1000 - 4) \\ &= 367 \times 1000 - 367 \times 4 \\ &\rightarrow 367000 - 1468 = 365532 \end{aligned}$$

(v) 472×1097

$$\begin{aligned} &= 472 \times (1000 + 97) \\ &= 472 \times 1000 + 472 \times 97 \\ &= 472000 + 45784 = 517784 \end{aligned}$$

(vi) 580×64

$$\begin{aligned} &\rightarrow 580 \times (60 + 4) \\ &= 580 \times 60 + 580 \times 4 \\ &= 34800 + 2320 = 37120 \end{aligned}$$

$$\text{Cvi} \quad 439 \times 997$$

$$= 439 \times (1000 - 3)$$

$$= 439 \times 1000 - 439 \times 3$$

$$= 439000 - 1317 = 437683$$

$$\text{Cviii} \quad 1553 \times 198$$

$$= 1553 \times (200 - 2)$$

$$= 1553 \times 200 - 1553 \times 2$$

$$= 310600 - 3106 = 307494$$

6. Find each of the following products, using distributive

a) 3576×9

$$\rightarrow 3576 \times (10 - 1)$$

$$= 3576 \times 10 - 3576 \times 1$$

$$= 35760 - 3576$$

$$= 32184$$

b) 847×99

$$\rightarrow 847 \times (100 - 1)$$

$$= 847 \times 100 - 847 \times 1$$

$$= 84700 - 847$$

$$= 83853$$

c) 2437×999

$$\rightarrow 2437 \times (1000 - 1)$$

$$= 2437 \times 1000 - 2437 \times 1$$

$$= 2437000 - 2437$$

$$= 2434563$$