

Q2 State the property and 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 of 1
- v] $1732 \times 0 = 0$ = Multiplicative property of 0
- vi] $72 \times 98 + 72 \times 2 = 72 \times (98 + 2)$ = Distributive Law of Multiplication over addition.
- vii] $63 \times 126 - 63 \times 26 = 63 \times (126 - 26)$ = Distributive Law of Multiplication over subtraction.

Q3 Find the value of each of the following using various properties:

$$\begin{aligned} \text{i] } (674 \times 13) + 674 \times 7 &= \\ &= (647 \times 13) + (647 \times 7) \\ &= 647 \times (13 + 7) \\ &= 647 \times 20 \\ &= 12940 \end{aligned}$$

$$\begin{aligned} \text{ii] } 8759 \times 94 + 8759 \times 6 &= \\ &= (8759 \times 94) + (8759 \times 6) \\ &= 8759 \times \cancel{100} (94 + 6) \\ &= 8759 \times 100 \\ &= 875900 \end{aligned}$$

Following

$$\begin{aligned} \text{iii)} & 7459 \times 999 + 7459 \\ &= (7459 \times 999) + 7459 \\ &= (7459 \times 999) + 7459 \\ &= 7451551 + 7459 \\ &= 7459000 \end{aligned}$$

Multiplcation

$$\begin{aligned} \text{iv)} & 9870 \times 561 - 9870 \times 561 \\ &= (9870 \times 561) - (9870 \times 561) \\ &= 9870 \times (561 - 561) \\ &= 9870 \times 100 \\ &= 987000 \end{aligned}$$

ous

$$\begin{aligned} \text{v)} & 569 \times 17 + 569 \times 13 + 569 \times 70 \\ &= 569 \times 17 + 569 \times 13 + 569 \times 70 \\ &= 569 (17 + 13 + 70) \\ &= 569 \times 100 \\ &= 56900 \end{aligned}$$

$$\begin{aligned} \text{vi)} & 16825 \times 16825 - 16825 \times 6825 \\ &= (16825 \times 16825) - (16825 \times 6825) \\ &= 16825 \times (16825 - 6825) \\ &= ~~10000~~ 16825 \times 10000 \\ &= 168250000 \end{aligned}$$

Q4 Determine each of the following products by suitable rearrangements:

i) $2 \times 1658 \times 50$

~~$= 50 \times (2 \times 1658)$~~

~~$= 50 \times 2$~~

~~$= 100$~~

~~$= 1658 \times 100$~~

~~$= 165800$~~

$1658 \times (50 \times 2)$

1658×100

$= 165800$

ii) $4 \times 927 \times 25$

~~$= 4 \times (25 \times 927)$~~

~~$= 25 \times 4$~~

~~$= 100$~~

~~$= 927 \times 100$~~

~~$= 92700$~~

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

$= 927 \times 100$

$= 92700$

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

$625 \times 20 \times 8 \times 50$

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

$= 625 \times 20 \times 400$

$= 12500 \times 400$

$= 5000000$

iv) ~~$574 \times 625 \times 16$~~

$574 \times (625 \times 16)$

574×10000

5740000

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

$$= 250 \times 60 \times 15000$$

$$= 15000 \times 50$$

$$= 750000 \times 8$$

$$= 6000000$$

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

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

$$= 1000 \times 1000$$

$$= 1000000$$

95 Find each of the following products, using distributive laws:

i] 740×105

$$= 740 \times (100 - 5)$$

$$= 740 \times 100$$

$$= 74000 - 5$$

$$= 73995$$

$$= 740 \times (100 + 5)$$

$$= (740 \times 100) + (740 \times 5)$$

$$= 74000 + 3700$$

$$= 77700$$

ii] 245×1008

$$= 245 \times (1000 - 8)$$

$$= 245 \times 1000$$

$$= 245000 - 8$$

$$= 244992$$

$$= 245 \times (1000 + 8)$$

$$= (245 \times 1000) + (245 \times 8)$$

$$= 245000 + 1960$$

$$= 246960$$

$$\text{iii) } 947 \times 96$$

$$= 947 \times (100 - 4)$$

$$= 947 \times 100$$

$$= 94700 - 4$$

$$= 94696$$

$$= 947 \times (1000 - 4)$$

$$= 947 \times 1000 - 947 \times 4$$

$$= 947000 - 3788$$

$$= 943212$$

$$\text{iv) } 996 \times 367$$

$$996 \times (370 + 3)$$

$$996 \times 370$$

$$= 996 \times (1000 - 23)$$

$$= 996 \times 1000 - 996 \times 23$$

$$= 996000 - 22908$$

$$= 973092$$

$$\text{v) } 472 \times 1097$$

$$472 \times (1000 + 97)$$

$$= (472 \times 1000) + 472 \times 97$$

$$= 472000 + 45784$$

$$= 517784$$

$$996 \times 367$$

$$= 367 \times (1000 - 4)$$

$$= (367 \times 1000) - (367 \times 4)$$

$$= 367000 - 1468$$

$$= 365532$$

$$\text{vi) } 580 \times 64$$

$$= 580 \times (100 + 36)$$

$$= (580 \times 100) + (580 \times 36)$$

$$= 58000 + 20880$$

$$= 78880$$

$$vii) 439 \times 997$$

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

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

$$439000 - 1317$$

$$437683$$

$$1553 \times 198$$

$$1553 \times (100 + 98)$$

$$(1553 \times 100) + (1553 \times 98)$$

$$= 198 \times (1000 + 553)$$

$$= (198 \times 1000) + (198 \times 553)$$

$$= 198000 + 109494$$

$$= 307494$$

Q6 Find each of the following products, using distributive laws:

$$i) 3576 \times 9$$

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

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

$$= 35760 - 3576$$

$$= 32284$$

$$\text{ii) } 847 \times 99$$

$$\begin{aligned} &= 847 \times (100 - 1) \\ &= (847 \times 100) - (847 \times 1) \\ &= 84700 - 847 \\ &= 83953 \end{aligned}$$

$$\text{iii) } 2437 \times 999$$

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

Q7 Find the products:

$$\begin{array}{r} \text{i) } \begin{array}{r} 458 \\ \times 67 \\ \hline \end{array} \\ + \begin{array}{r} 3192 \\ 27980 \\ \hline \end{array} \\ \hline 30672 \end{array}$$

$$\begin{array}{r} \text{ii) } \begin{array}{r} 3709 \\ \times 89 \\ \hline \end{array} \\ + \begin{array}{r} 32381 \\ 296720 \\ \hline \end{array} \\ \hline 329101 \end{array}$$

$$\begin{array}{r} \text{iii) } \begin{array}{r} 5617 \\ \times 234 \\ \hline \end{array} \\ + \begin{array}{r} 18478 \\ 138510 \\ 922400 \\ \hline \end{array} \\ \hline 1079388 \end{array}$$