

Exercise – 2.2

Q1. Find the sum by suitable arrangement:

(a) $837 + 208 + 363$

(b) $1962 + 453 + 1538 + 647$

Sol. (a) $837 + 208 + 363 = (837 + 363) + 208$
 $= 1200 + 208$ [Using associative property]
 $= 1408$

(b) $1962 + 453 + 1538 + 647$
 $= (1962 + 1538) + (453 + 647)$
 $= 3500 + 1100 = 4600$

Q2. Find the product by suitable arrangement:

(a) $2 \times 1768 \times 50$

(b) $4 \times 166 \times 25$

(c) $8 \times 291 \times 125$

(d) $625 \times 279 \times 16$

(e) $285 \times 5 \times 60$

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

Sol. (a) $2 \times 1768 \times 50 = (2 \times 50) \times 1768 = 176800$

(b) $4 \times 166 \times 25 = 166 \times (25 \times 4) = 166 \times 100 = 16600$

(c) $8 \times 291 \times 125 = (8 \times 125) \times 291 = 1000 \times 291 = 291000$

(d) $625 \times 279 \times 16 = (625 \times 16) \times 279 = 10000 \times 279 = 2790000$

(e) $285 \times 5 \times 60 = 285 \times (5 \times 60) = 285 \times 300 = (300 - 15) \times 300 = 300 \times 300 - 15 \times 300 = 90000 - 4500$
 $= 85500$

(f) $125 \times 40 \times 8 \times 25 = (125 \times 8) \times (40 \times 25) = 1000 \times 1000 = 1000000$

Q3. Find the value of the following:

(a) $297 \times 17 + 297 \times 3$

(b) $54279 \times 92 + 8 \times 54279$

(c) $81265 \times 169 - 81265 \times 69$

(d) $3845 \times 5 \times 782 + 769 \times 25 \times 218$

Sol.

(a) $297 \times 17 \times 297 \times 3 = 297 \times (17 + 3)$
 $= 297 \times 20 = 297 \times 2 \times 10$
 $= 594 \times 10 = 5940$

(b) $54279 \times 92 + 8 \times 54279 = 54279 \times (92 + 8)$
 $= 54279 \times 100 = 5427900$

(c) $81265 \times 169 - 81265 \times 69$
 $= 81265 \times (169 - 69)$
 $= 81265 \times 100 = 8126500$

(d) $3845 \times 5 \times 782 + 769 \times 25 \times 218 = 3845 \times 5 \times 782 + 769 \times 5 \times 5 \times 218$
 $= 3845 \times 5 \times 782 + (769 \times 5) \times 5 \times 218$
 $= 3845 \times 5 \times 782 + 3845 \times 5 \times 218$
 $= 3845 \times 5 \times 782 + 3845 \times 5 \times 218$
 $= 3845 \times 5 \times (782 + 218)$
 $= 3845 \times 5 \times 1000$
 $= 19225 \times 1000$
 $= 19225000$

Q4. Find the product using suitable properties.

- (a) 738×103
(b) 854×102
(c) 258×1008
(d) 1005×168

Sol.

(a) $738 \times 103 = 738 \times (100 + 3)$
 $= 738 \times 100 + 738 \times 3$ [Using distributive property]
 $= 73800 + 2214 = 76014$

(b) $854 \times 102 = 854 \times (100 + 2)$
 $= 854 \times 100 + 854 \times 2$ [Using distributive property]
 $= 85400 + 1708 = 87108$

(c) $258 \times 1008 = 258 \times (1000 + 8)$
 $= 258 \times 1000 + 258 \times 8$ [Using distributive property]
 $= 258000 + 2064 = 260064$

(d) $1005 \times 168 = (1000 + 5) \times 168$
 $= 1000 \times 168 + 5 \times 168$ [Using distributive property]

$$= 168000 + 840 = 168840$$

Q5. A taxidriver filled his car petrol tank with 40 litres of petrol on Monday. The next day, he filled the tank with 50 litre of petrol. If the petrol cost Rs 44 per litre, how much did he spend in all on petrol?

Sol. Petrol filled on Monday = 40 litres

Cost of petrol = Rs 44 per litre

Petrol filled on Tuesday = 50 litre

Cost of petrol = Rs 44 per litre

∴ Total money spent in all

$$= \text{Rs } (40 \times 44 + 50 \times 44)$$

$$= \text{Rs } (40 + 50) \times 44 = \text{Rs } 90 \times 44 = 3960$$

Q6. A vendor supplies 32 litres of milk to a hotel in the morning and 68 litres of milk in the evening. If the milk costs Rs 15 per litre, how much money is due to the vendor per day?

Sol. Milk supplied in the morning = 32 litres

Cost of milk = Rs 15 per litre

Milk supplied in the evening = 68 litres

Cost of milk = Rs 15 per litre

Q7. Match the following:

(i) $425 \times 136 = 425 \times (6 + 30 + 100)$

(ii) $2 \times 49 \times 50 = 2 \times 50 \times 49$

(iii) $80 + 2005 + 20 = 80 + 20 + 2005$

Sol. Hence (i) ↔ (c), (ii) ↔ (a) and (iii) ↔ (b)

∴ Money paid to the vendor

$$= \text{Rs } (32 \times 15 + 68 \times 15)$$

$$= \text{Rs } (32 + 68) \times 15$$

$$= \text{Rs } 100 \times 15$$

$$= \text{Rs } 1500$$

(a) Commutativity under multiplication

(b) Commutativity under addition

(c) Distributivity of multiplication over addition