Exercise 4B

Using the formula $a^3 + 3a^2b + 3ab^2 + b^3$:

36 × 6	36 × 24	64 × 18	64 ×8
216 + 98	864 + 120	1152 + 51	512
314	984	1203	

$$\therefore (68)^3 = 314432$$

Q4

Answer :

$(84)^3$

Here, $a = 8$ and $b = 4$

Using the formula $a^3 + 3a^2b + 3ab^2 + b^3$:

64 × 8	64 × 12	16 × 24	16 × 4
512 + 80	768 + 39	384 + 6	**64**
592	807	390	

$\therefore (84)^3$ = 592704

Q1

Answer :

$\sqrt[3]{64}$

By prime factorisation:

$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$= (2 \times 2 \times 2) \times (2 \times 2 \times 2)$

$\therefore \sqrt[3]{64} = \sqrt[3]{(2)^3 \times (2)^3} = (2 \times 2) = 4$

Q2

Answer :

$\sqrt[3]{343}$

By prime factorisation:

$343 = 7 \times 7 \times 7$

$= (7 \times 7 \times 7)$

$\therefore \sqrt[3]{343} = \sqrt[3]{7^3} = 7$

Q3

Answer :

$\sqrt[3]{729}$

By prime factorisation:

By prime factorisation:

3	729
3	243
3	81
3	27
3	9
3	3
	1

$729 = 3 \times 3 \times 3 \times 3 \times 3 \times 3$

$= (3 \times 3 \times 3) \times (3 \times 3 \times 3)$

$\therefore \sqrt[3]{729} = (3 \times 3) = 9$

Q4

Answer :

$\sqrt[3]{1728}$

By prime factorisation:

2	1728
2	864
2	432
2	216
2	108
2	54
3	27
3	9
3	3
	1

********** END **********