

Using and Recognising Square and Cube Numbers

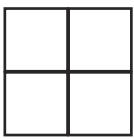
Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).

Square Numbers

The product of a number multiplied by itself.

Can be illustrated as a square, e.g

$$2^2 = 2 \text{ squared} = 2 \times 2 = 4$$



A. Complete the table.

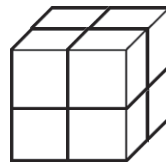
1^2	1×1	1
2^2		4
3^2	3×3	
	4×4	16
5^2		
		36
	7×7	
8^2		
10^2		100

Cube Numbers

The product of multiplying a digit by itself three times.

Can be illustrated as a cube, e.g.

$$2^3 = 2 \text{ cubed} = 2 \times 2 \times 2 = 8$$



B. Complete the table.

1^3	$1 \times 1 \times 1$	1
2^3	$2 \times 2 \times 2$	
3^3		27
	$4 \times 4 \times 4$	64
5^3	$5 \times 5 \times 5$	
6^3	$6 \times 6 \times 6$	
		343
8^3		512
	$9 \times 9 \times 9$	729
10^3		

C. Calculate the missing numbers.

a) $7^2 + 4^3 =$	b) $8^2 + 10^2 =$	c) $5^3 - 5^2 =$
d) $5^2 + \underline{\quad} = 89$	e) $\underline{\quad} - 8^2 = 17$	f) $3^2 \times 2^3 =$
g) $3^2 + \underline{\quad} = 5^2$	h) $6^3 \div 2^2 =$	i) $13^2 =$
j) $10^3 - 2^2 =$	k) $100^2 =$	l) $\underline{\quad}^2 = 144$

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Answers

A. Complete the table.

1^2	1×1	1
2^2	2×2	4
3^2	3×3	9
4^2	4×4	16
5^2	5×5	25
6^2	6×6	36
7^2	7×7	49
8^2	8×8	64
9^2	9×9	81
10^2	10×10	100

B. Complete the table.

1^3	$1 \times 1 \times 1$	1
2^3	$2 \times 2 \times 2$	8
3^3	$3 \times 3 \times 3$	27
4^3	$4 \times 4 \times 4$	64
5^3	$5 \times 5 \times 5$	125
6^3	$6 \times 6 \times 6$	216
7^3	$7 \times 7 \times 7$	343
8^3	$8 \times 8 \times 8$	512
9^3	$9 \times 9 \times 9$	729
10^3	$10 \times 10 \times 10$	1000

C. Calculate the missing numbers.

a) $7^2 + 4^3 = 113$	b) $8^2 + 10^2 = 164$	c) $5^3 - 5^2 = 100$
d) $5^2 + 8^2 = 89$	e) $9^2 - 8^2 = 17$	f) $3^2 \times 2^3 = 72$
g) $3^2 + 4^2 = 5^2$	h) $6^3 \div 2^2 = 54$	i) $13^2 = 169$
j) $10^3 - 2^2 = 996$	k) $100^2 = 10\ 000$	l) $12^2 = 144$