Cube numbers

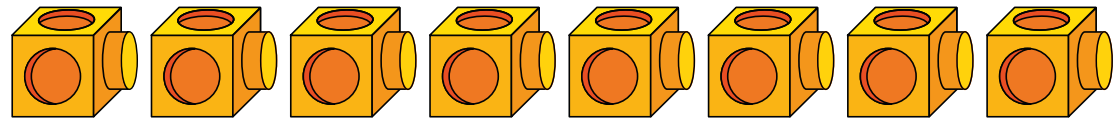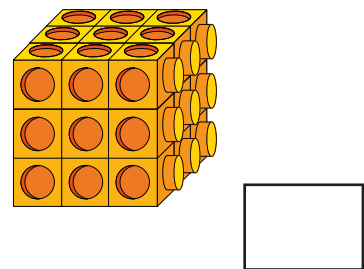**1** **a)** Fit 8 multilink cubes together to make a larger cube.

b) Is it possible to fit 9 multilink cubes together to make a larger cube? _____

Explain your answer.

_____

_____

2 Filip makes a cube using some smaller cubes.

a) How many cubes make up this cube? ▢

b) How did you work out the number of cubes?

_____

_____

c) This number is an example of a cube number.

Why do you think it is a cube number?
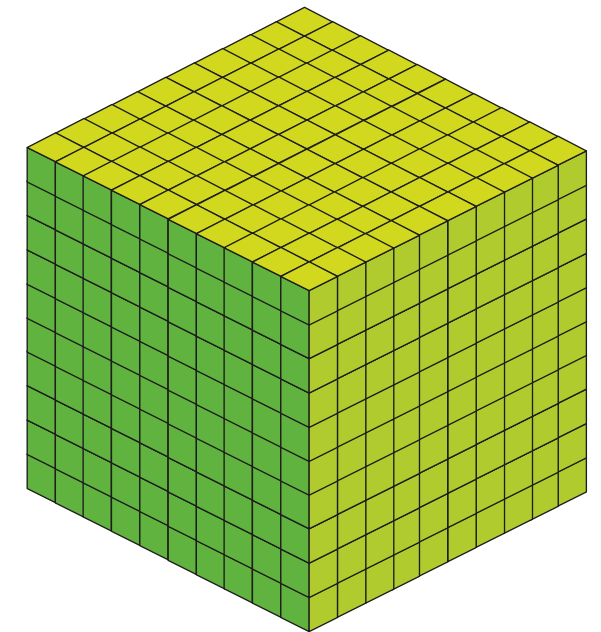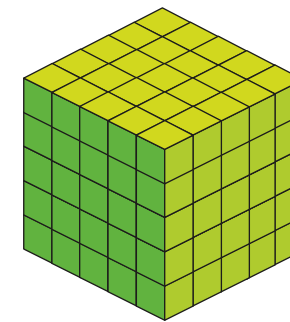
3 **a)** Complete the table of cube numbers.

2^3	$2 \times 2 \times 2$	8
3^3	$3 \times 3 \times 3$	
4^3	$4 \times 4 \times 4$	

b) What would the next cube number in the table be?

$$\boxed{}^3 = \boxed{} \times \boxed{} \times \boxed{} = \boxed{}$$

4 Complete the statements.

Use the cubes to help you.

a) $5^3 = \boxed{}$

5 cubed = $\boxed{}$

$5 \times 5 \times 5 = \boxed{}$

b) $10^3 = \boxed{}$

10 cubed = $\boxed{}$

$10 \times 10 \times 10 = \boxed{}$

5 **a)** Which calculation is the same as 6^3?

Tick your answer.

6 × 3	6 + 6 + 6	6 × 6 × 6
☐	☐	☐

b) Kim has worked out 6^3 using this method.

$6^3 = (6 × 6) × 6$

$= 36 × 6$

$= 216$

	30	6
6	30 × 6 = 180	6 × 6 = 36
	180 + 36 = 216	

Is Kim's method correct? _____

How do you know?

_____

_____

c) Match the cube numbers to the calculations.

One has been done for you.

4^3 4 × 2

5^3 ———————————————— 9 × 3
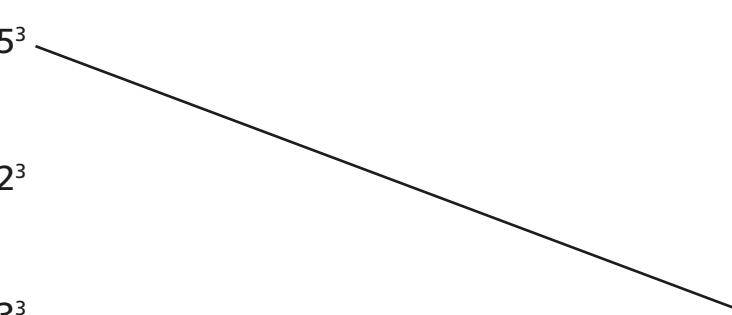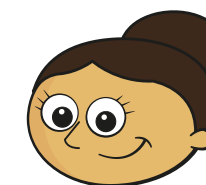
2^3 16 × 4

3^3 25 × 5

6 Calculate 7^3

☐

7

1³ is 1, and
3³ is 9

What mistake has Dora made?

Why might she have made this mistake?

_____

_____

8 Scott's age is a cube number.

His sister is 2 years younger than him.

Her age is a square number.

In 3 years, Scott's age will be a multiple of 10

How old is Scott?

Scott is [ ] years old.