

20.11.20

L.O: To identify and use Cube numbers.

1)  $5^2 = 25$

2)  $47^2 = 47 \times \underline{47}$

3) What is 9 squared?  $9^2 = 81$

4)  $3^2 + 11 =$

1)  $5^2 = 25$

2)  $47^2 = 47 \times \boxed{47}$

3) What is 9 squared?  
 $81$

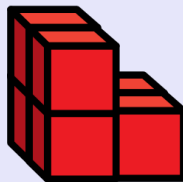
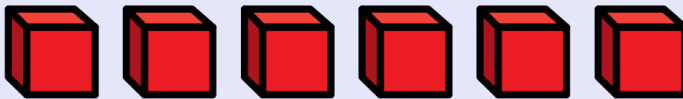
4)  $3^2 + 11 = 20$

$$7^2 = \underline{7} \times \underline{7} = \underline{49}$$
$$7^3 = \underline{7} \times 7 \times 7$$
$$49 \times 7$$

I do

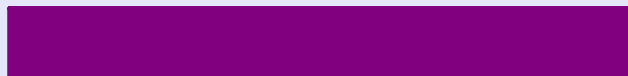
Here are 6 cubes

Is it possible to make a cube?

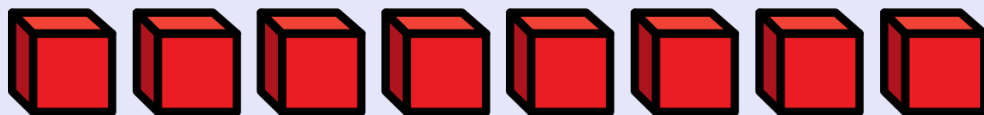


Yes/No

6 is a not a cube number.



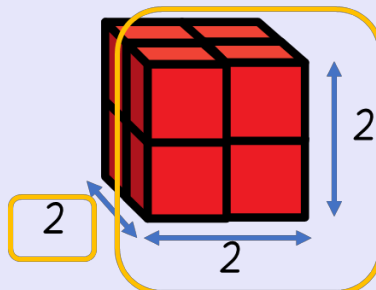
We do



Here are 8 cubes

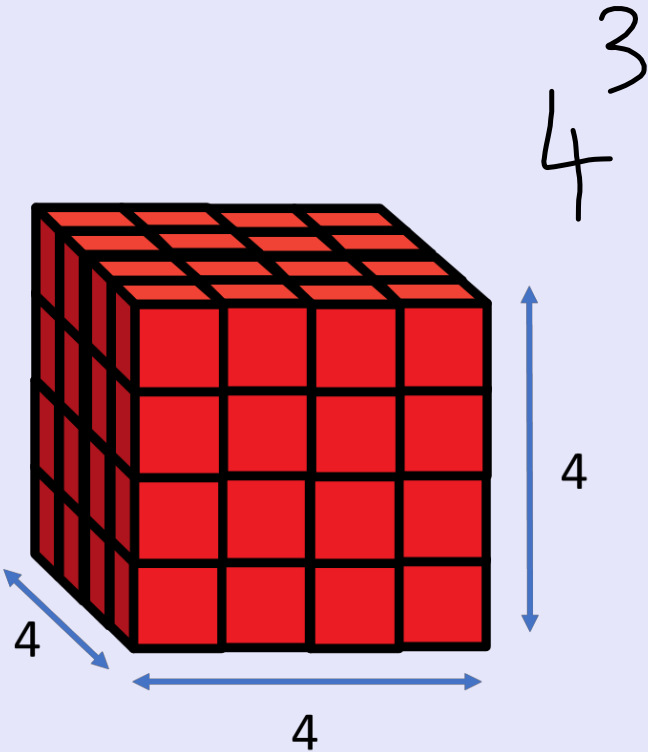
Is it possible to make a cube?

$$2 \times 2 \times 2 = 8$$



Yes/No

You do



Yes/No

$4 \times 4 \times 4 = 64$

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A cube number is a number multiplied by itself 3 times. This can also be called 'cubed'. The symbol for cubed is  $^3$

I do

### Cube numbers

$$\underline{2} \times \underline{2} \times \underline{2} = 8$$

$$2^3 = 8$$

### Square numbers

$$\underline{2} \times \underline{2} = 4$$

$$2^{\boxed{2}} = 4$$

We do

$$4 \times 4 \times 4 = 64$$

$$\underline{4^3 = 64}$$

"4 cubed is equal to 64"

You do

$$10 \times 10 \times 10 = 1000$$

$$10^3 = 1000$$

"10 cubed is equal to 1000"

Question 1: Write each of the following as multiplications  
e.g.  $4^3 = 4 \times 4 \times 4$

- (a)  $5^3$       (b)  $2^3$       (c)  $9^3$       (d)  $10^3$       (e)  $7^3$       (f)  $0.2^3$       (g)  $15^3$

Question 2: Write each of the following using the "cubed" symbol  
e.g.  $8 \times 8 \times 8 = 8^3$

- (a)  $4 \times 4 \times 4$       (b)  $1 \times 1 \times 1$       (c)  $6 \times 6 \times 6$       (d)  $11 \times 11 \times 11$   
(e)  $0.5 \times 0.5 \times 0.5$       (f)  $27 \times 27 \times 27$       (g)  $500 \times 500 \times 500$

Question 3: Work out each of the following

- (a)  $2^3$       (b)  $1^3$       (c)  $5^3$       (d)  $6^3$

Rosie says,



$5^3$  is equal to 15

Do you agree?  
Explain your answer.

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?



All the factors  
of 36 are common factors  
of 36 and 72

Do you agree with Mo?

Explain your reasoning.

Why do you think this happens?

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Complete the calculations.

a)  $45 \times 10 = \boxed{\phantom{000}}$

e)  $10 \times \boxed{\phantom{000}} = 140$

b)  $36 \times 10 = \boxed{\phantom{000}}$

f)  $\boxed{\phantom{000}} = 40 \times 10$

c)  $\boxed{\phantom{000}} = 10 \times 78$

g)  $32 \times 10 = 10 \times \boxed{\phantom{000}}$

d)  $31 \times \boxed{\phantom{000}} = 310$

h)  $670 = 2 \times 5 \times \boxed{\phantom{000}}$

You do

Eva walks 60 m to school.

Teddy walks 10 times as far as Eva to school.

How far does Teddy walk to school?

Teddy walks  m to school.

## We do

Amir thinks of a 2-digit number.

He multiplies it by 10



My answer is  
between 755  
and 795

Write all the numbers Amir could be thinking of.

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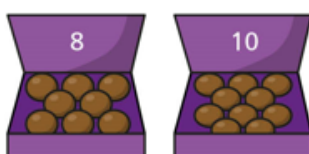
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Complete 'You Do' Tasks.

Let's re-group!

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Chocolates come in boxes of 8 and 10



Rosie needs to buy 80 chocolates.

a) What boxes could Rosie buy?

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b) What is the fewest number of boxes Rosie needs to buy?

