

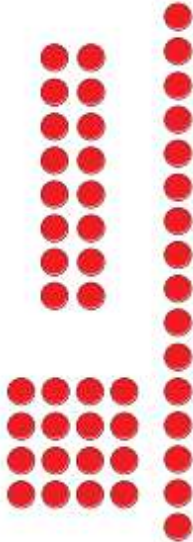
Maths answers

Monday

Square numbers



1 Use 16 counters to make these arrays.



b) What do you notice about the shape of one of the arrays?

It's a square

c) Is 16 a square number? How do you know?

2 a) Is it possible to make a square array with 8 counters?

No

b) Is it possible to make a square array with 9 counters?

Yes

c) Which number is a square number?
How do you know?

9

You can make a square array using 9 counters.



3 Which of these numbers are square numbers?

Circle your answers.

4 10 18 25

4 Dexter makes a square using 12 counters.



12 is a square number as I can make the counters into a square.



What mistake has Dexter made?

His square is incomplete

5 Whitney is working out a calculation.

$$8 \times 8 = 16$$

What mistake has Whitney made?

She has done 8+8

It should be 64



Monday

6 The arrays below show a sequence.

a) Complete the number sentences. Use the arrays to help you.



$1 \times 1 = \boxed{1}$ $2 \times 2 = \boxed{4}$ $3 \times \boxed{3} = \boxed{9}$ $\boxed{4} \times \boxed{4} = \boxed{16}$

b) What do these numbers have in common?

They're all square numbers.

c) Draw the next two numbers in the sequence and write a number sentence for each.

$5 \times 5 = 25$

$6 \times 6 = 36$

d) What would the next four numbers in the sequence be?

$\boxed{49}$ $\boxed{64}$ $\boxed{81}$ $\boxed{100}$



7 Complete the statements.

a) $6^2 = \boxed{36}$ d) $9^2 = \boxed{0}$

b) $12^2 = \boxed{144}$ e) $\boxed{10}^2 = 100$

c) $\boxed{81} = 9^2$ f) $64 = \boxed{8}^2$

8 a) Write the numbers in the table.

0 3 4 11 49

	Factor of 24	Not a factor of 24
Square number	4	0 49
Prime number	3	11

b) Write a different number in each part of the table.

9 Dani is thinking of a square number with 2 digits.

The digits add together to make another square number.

What could the number be?

$\boxed{36}$

10 Huan is celebrating his birthday.

His age is a square number.

Last year he was a multiple of 12.

Next year he will be a multiple of 10.

How old is Huan?

$\boxed{49}$



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?

no

Explain your answer.

There will be one cube sticking out.

- 2 Filip makes a cube using some smaller cubes.



27

- a) How many cubes make up this cube?

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

$3 \times 3 \times 3 = 27$

- 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 cubed numbers.

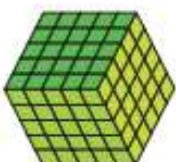
2^3	$2 \times 2 \times 2$	8
3^3	$3 \times 3 \times 3$	27
4^3	$4 \times 4 \times 4$	64

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

$$5^3 = 5 \times 5 \times 5 = 125$$

- 4 Complete the statements.

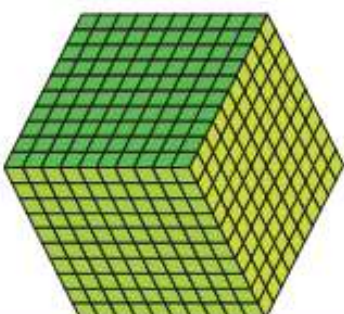
Use the cubes to help you.



a) $5^3 = 125$

5 cubed = 125

$5 \times 5 \times 5 = 125$



b) $10^3 = 1,000$

10 cubed = 1,000

$10 \times 10 \times 10 = 1,000$



- 5) Which calculation is the same as 6^2 ?

Tick your answer.

- 6×3 $6 + 6 + 6$ $6 \times 6 \times 6$

- b) Kim has worked out 6^2 using this method:

$$\begin{aligned}6^2 &= (6 \times 6) \times 6 \\ &= 36 \times 6 \\ &= 216\end{aligned}$$

6	30	6
$30 \times 6 = 180$	$6 \times 6 = 36$	
$180 + 36 = 216$		

Is Kim's method correct? yes
How do you know?

She has correctly calculated but she multiplied

her answer by 6

- d) Match the cube numbers to the calculations.
One has been done for you.



- 6) Calculate 7^2

343

- 7)

1^2 is 1, and
 3^2 is 9



What mistake has Dora made?
Why might she have made this mistake?

She has calculated 2×3 because the power is

3 rather than $2 \times 2 \times 3$

- 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 27 years old.

Tuesday



Multiply by 10



1 Complete the calculation shown in base 10



$5 \times 1 \text{ ten} = 5 \text{ tens}$

$5 \times 10 = 50$

2 Complete the number sentences.

a) $2 \times 10 = 20$

d) $7 \times 10 = 70$

b) $4 \times 10 = 40$

e) $10 \times 6 = 60$

c) $10 \times 8 = 80$

f) $30 = 3 \times 10$

3 Match the bar models to the multiplications.



5×10



10×9



6×10

Wednesday



4 Tom has 10 boxes of eggs.



There are 12 eggs in each box.
How many eggs does he have altogether?

Tom has 120 eggs.

5 Complete the sentences.

H	T	O
	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0

Each row has 1 ten and 3 ones.

There are 10 rows.

The calculation is 13 x 10 = 130

Wednesday

- 6 Use counters on a place value chart to work out 23×10

$$23 \times 10 = \boxed{230}$$

- 7 Which of these is the odd one out? Tick your answer.

There are 10 teams with 7 players on each team.

There are 10 red flowers and 7 yellow flowers. ✓

There are 7 ten frames with 10 counters in each.

Talk about it with a partner.

- 8 Complete the calculations.

a) $45 \times 10 = \boxed{450}$

e) $10 \times \boxed{14} = 140$

b) $36 \times 10 = \boxed{360}$

f) $\boxed{400} = 40 \times 10$

c) $\boxed{780} = 10 \times 78$

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

d) $31 \times \boxed{10} = 310$

h) $670 = 2 \times 5 \times \boxed{67}$

- 9 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 $\boxed{600}$ m to school.



- 10 Amir thinks of a 2-digit number. He multiplies it by 10.

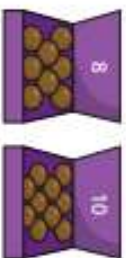


My answer is between 755 and 795

Write all the numbers Amir could be thinking of.

76, 77, 78, 79

- 11 Chocolates come in boxes of 8 and 10



Rosie needs to buy 80 chocolates.

a) What boxes could Rosie buy?

10 boxes of 8

8 boxes of 10

5 boxes of 8 and 4 boxes of 10

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

$\boxed{8}$

Multiply by 100

- 1 Complete the calculation shown in base 10



3×1 hundred = hundreds

$3 \times 100 =$

- 2 Complete the number sentences.

a) $2 \times 100 =$ d) $5 \times 100 =$

b) $4 \times 100 =$ e) $100 \times 10 =$

c) $100 \times 8 =$ f) $2,000 = 20 \times 100$

- 3 There are 7 boxes of 100 crayons.



Circle the calculations that work out the total number of crayons.

$100 + 7$

100×7

$7 + 100$

7×100

- 4 Match the images to the calculations. Complete the calculations.



$9 \times 100 =$



$6 \times 100 =$



$12 \times 100 =$

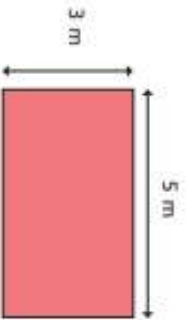
- 5 Complete the calculations.

a) $32 \times 100 =$ d) $5 \times 7 \times 100 =$

b) $29 \times 100 =$ e) $\times 100 = 6,500$

c) $100 \times 72 =$ f) $100 \times$ $= 3,000$

- 6 Calculate the perimeter of the rectangle.



Give your answer in centimetres.

The perimeter of the rectangle is cm

- 7 Write $<$, $>$ or $=$ to compare the statements.

- a) 45×100 45×10
 b) 36×100 100×36
 c) 100×27 26×100
 d) 31×100 $31 \times 10 \times 10$
 e) 30×10 3×100



- 8 Amir thinks of a 2-digit even number.

He multiplies it by 100

His answer is greater than 3,450 but less than 3,750

Write the number that Amir is thinking of.

- 9 Four children are making numbers using base 10

The table shows how many of each piece they use.

	Number of 100s	Number of 10s
Eva	17	0
Ron	15	8
Dexter	16	15
Whitney	15	20

Various answers

- a) What number has Eva made?

- b) Who has made the biggest number?

Dexter

- c) Whitney has made the same number as Eva.

She used 100s and 10s.

What pieces could Whitney have used?

Write your answer in the table.

Are there any other answers? Talk about it with a partner.

Thursday



Multiply by 10, 100 and 1,000



1 Complete the multiplications.

Th	H	T	O
			7

$7 \times 10 = \boxed{70}$

Th	H	T	O
		3	9

$39 \times 10 = \boxed{390}$

Th	H	T	O
	2	0	5

$205 \times 10 = \boxed{2,050}$

d) What happens to the digits when you multiply by 10?

They move one place to the left

2 Complete the multiplication sentences.

a) $9 \times 10 = \boxed{90}$

e) $\boxed{32} \times 10 = 320$

b) $54 \times 10 = \boxed{540}$

f) $10 \times \boxed{135} = 1,350$

c) $10 \times 13 = \boxed{130}$

g) $20 \times 10 = \boxed{200}$

d) $126 \times 10 = \boxed{1,260}$

h) $\boxed{500} \times 10 = 5,000$

3 Multiply each number by 100 and then by 1,000

HTh	TTh	Th	H	T	O
					9

$9 \times 100 = \boxed{900}$

$9 \times 1,000 = \boxed{9,000}$

HTh	TTh	Th	H	T	O
				1	6

$16 \times 100 = \boxed{1,600}$

$16 \times 1,000 = \boxed{16,000}$

HTh	TTh	Th	H	T	O
			2	4	5

$245 \times 100 = \boxed{24,500}$

$245 \times 1,000 = \boxed{245,000}$

d) Explain to a partner how you multiply a number by 100
Ask them to explain how to multiply by 1,000

4 Complete the multiplication sentences.

a) $45 \times 100 = \boxed{4,500}$

c) $41 \times 10 = \boxed{410}$

$52 \times 100 = \boxed{5,200}$

$41 \times 100 = \boxed{4,100}$

$70 \times 100 = \boxed{7,000}$

$41 \times 1,000 = \boxed{41,000}$

b) $612 \times 100 = \boxed{61,200}$

d) $10 \times 952 = \boxed{9,520}$

$715 \times 100 = \boxed{71,500}$

$100 \times 952 = \boxed{95,200}$

$720 \times 100 = \boxed{72,000}$

$1,000 \times 952 = \boxed{952,000}$



5 Write $>$, $<$ or $=$ to make the statements true.

a) 78×10 78×100

b) 100×56 65×100

c) 930×10 100×93

d) $1,000 \times 482$ 482×100

6

$54 \times 1,000$
is the same as
 $54 \times 10 \times 10 \times 10$



Is Rosie correct? Yes
Explain how you know.

$10 \times 10 \times 10 = 1,000$

7 Complete the multiplication sentences.

a) $52 \times$ $= 5,200$ f) $\times 370 = 3,700$

b) $95 \times$ $= 950$ g) $\times 100 = 8,200$

c) $136 \times$ $= 1,360$ h) $\times 100 = 82,000$

d) $272 \times$ $= 272,000$ i) $\times 10 = 39,000$

e) $6,200 =$ $\times 62$ j) $1,000 \times$ $= 80,000$

8 Ron and Dani have paper rounds.
Ron delivers 75 papers a month.

Dani delivers 10 times as many papers a month as Ron.

How many papers do they deliver altogether?

papers

9 Mrs Hall owns a bookshop.

- In January, she sold 145 books.
- In February she sold 10 times as many books.
- In March she sold 10 times as many books as in February.

How many books did Mrs Hall sell in March?
Show your workings.

Compare answers with a partner.

10 Amir thinks of a number.
He multiplies it by 100.

The answer has the same digit in the thousands and hundreds columns.

The total of all the digits is 8.
What could the number be?

E.g.

Friday

