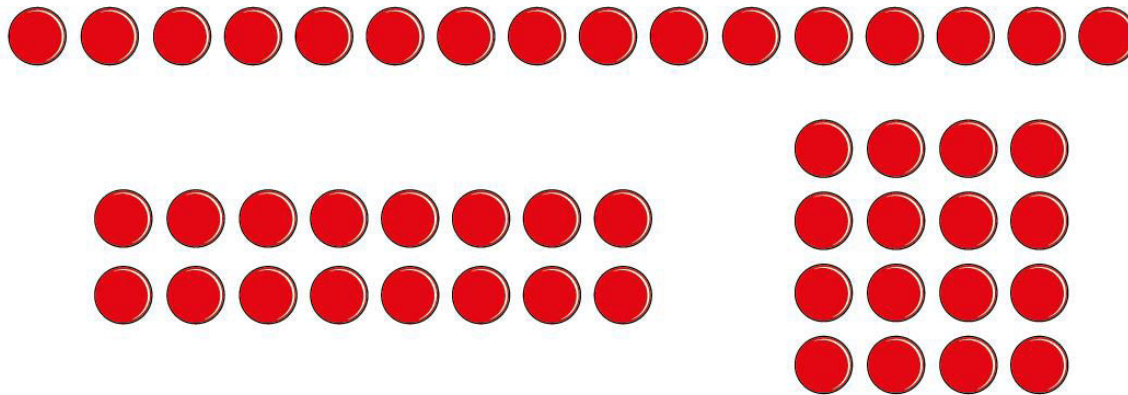


Square numbers

- 1 a) Use 16 counters to make these arrays.



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

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





2

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

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

c) Which number is a square number?

How do you know?



- 3 Which of these numbers are square numbers?
Circle your answers.

4

10

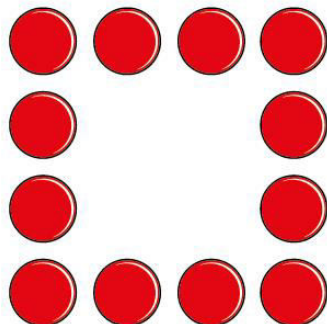
18

25

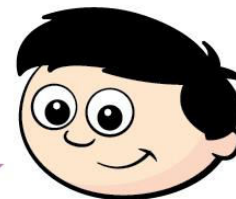


4

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?

- 5 Whitney is working out a calculation.

$$8 \times 8 = 16$$

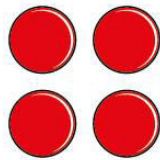
What mistake has Whitney made?

6 The arrays below show a sequence.

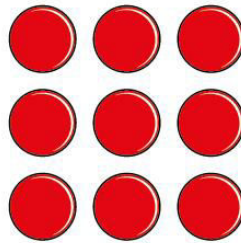
a) Complete the number sentences. Use the arrays to help you.



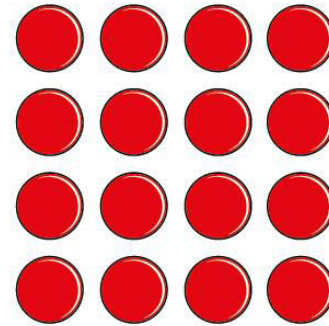
$1 \times 1 = \square$



$2 \times 2 = \square$



$3 \times \square = \square$



$\square \times \square = \square$

b) What do these numbers have in common?



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

A large, empty rounded rectangle with a purple border, intended for the student to draw and write.

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

<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>
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7

Complete the statements.

a) $6^2 = \square$

b) $12^2 = \square$

c) $\square = 9^2$

d) $0^2 = \square$

e) $\square^2 = 100$

f) $64 = \square^2$

8

a) Write the numbers in the table.

0 3 4 11 49

	Factor of 24	Not a factor of 24
Square number		
Prime number		

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?



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?