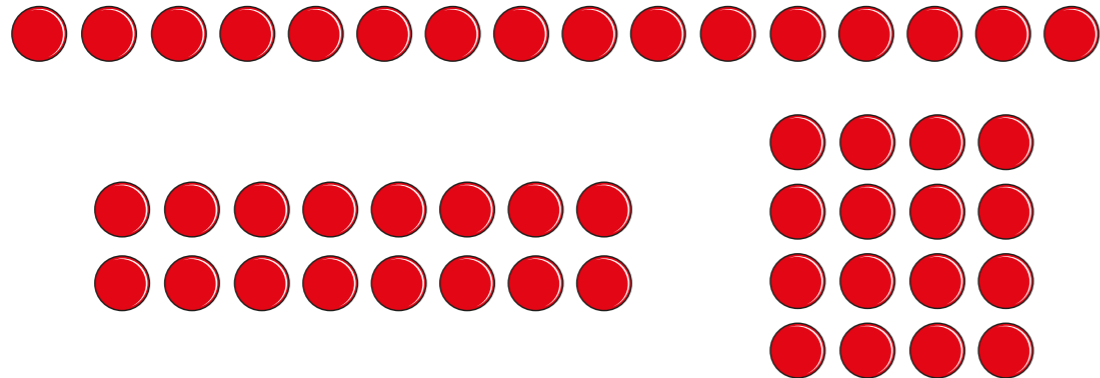


Square numbers

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? _____

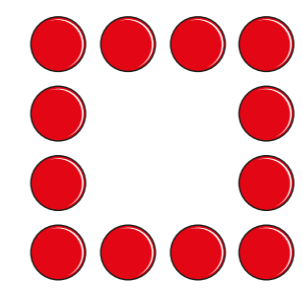
c) Which number is a square number?
How do you know?



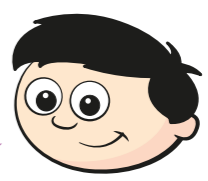
3 Which of these numbers are square numbers?
Circle your answers.

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.

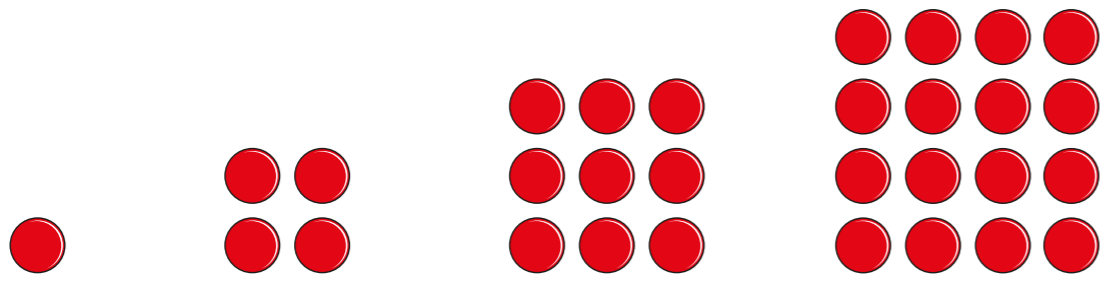
$$8 \times 8 = 16$$

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?

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

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

, , ,

7 Complete the statements.

a) $6^2 = \square$ d) $0^2 = \square$
b) $12^2 = \square$ e) $\square^2 = 100$
c) $\square = 9^2$ 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?

