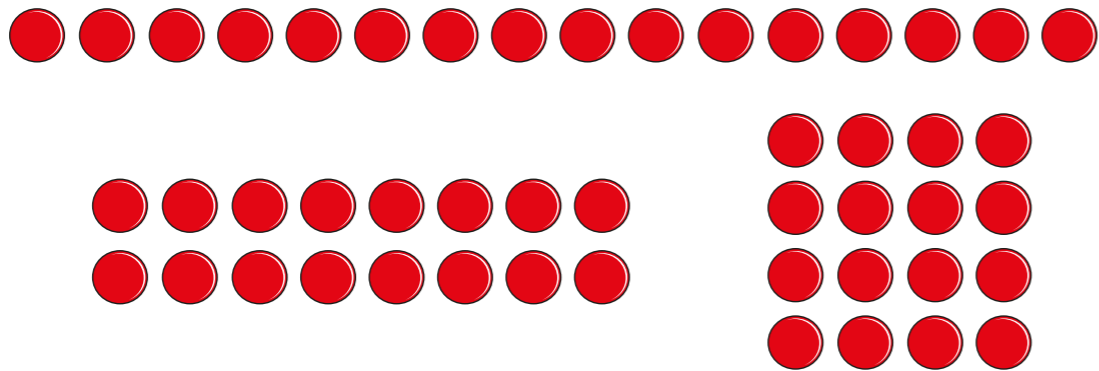


1 a) Use 16 counters to make these arrays.



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?



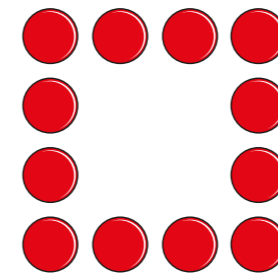
How do you know?



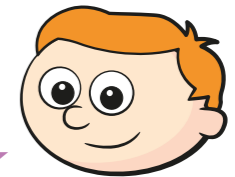
3 Which of these numbers are square numbers?
Circle your answers.

4 10 18 25

4 Ron makes a square using 12 counters.



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



What mistake has Ron made?

5 Whitney is working out a calculation.

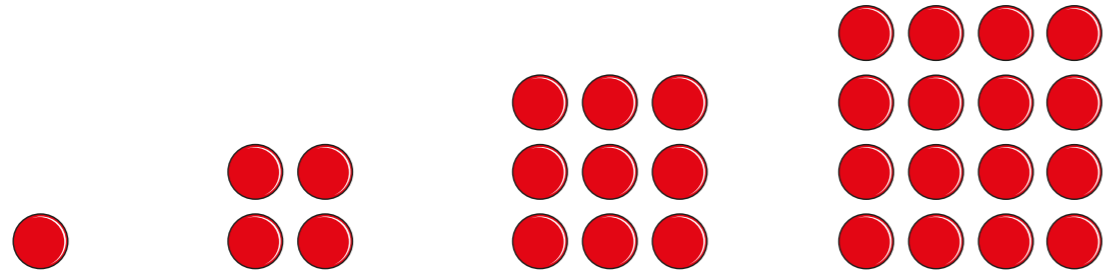
$$8 \times 8 = 16$$

What mistake has Whitney made?



6 The arrays 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.

	3	4	11	16	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 two digits. The digits add together to make another square number. What could the number be?

10 Dr Trent is celebrating his birthday. His age is a square number. Last year, his age was a multiple of 12. Next year, his age will be a multiple of 10. How old is Dr Trent?

