

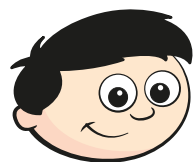
## Find pairs of values (2)



- 1 Class 6 are trying to solve a number puzzle.

$$\triangle + \triangle + \bigcirc = 10$$

a)



Dexter

The triangle could be 3 and the circle could be 4

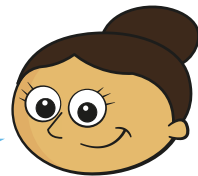
Do you agree with Dexter? yes

Explain why.

$$3 + 3 + 4 = 10$$

b)

The triangle is worth 4



Dora

What is the value of the circle in Dora's number puzzle?

$$\bigcirc = 2$$

- c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

$$\triangle = 1 \quad \bigcirc = 8$$

$$\triangle = 5 \quad \bigcirc = 0$$

$$\triangle = 2 \quad \bigcirc = 6$$

- 2  $a$  and  $b$  are whole numbers.

$$2a + b = 14$$

Complete the table to show different possible values for  $a$  and  $b$ .

$a$	0	1	2	3	4	5	6	7
$2a$	0	2	4	6	8	10	12	14
$b$	14	12	10	8	6	4	2	0
$2a + b$	14	14	14	14	14	14	14	14

- 3  $c$  and  $d$  are both integers less than 15 but greater than zero.

$$3c - d = 2$$

Complete the table to show different possible values for  $c$  and  $d$ .

$c$	1	2	3	4	5
$3c$	3	6	9	12	15
$d$	1	4	7	10	13
$3c - d$	2	2	2	2	2

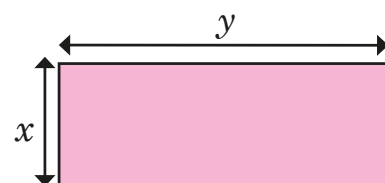
- b) Explain why there are no other possible values for  $c$  and  $d$ .

If  $c$  was 16  $d$  would be greater than 15

- 4  $x$  and  $y$  are both multiples of 5 less than 100  
If  $2x = y$ , circle the possible values of  $x$  and  $y$ .

$x = 20, y = 20$   
 $x = 10, y = 20$  ✓  
 $x = 20, y = 10$   
 $x = 35, y = 70$  ✓  
 $y = 90, x = 45$  ✓

- 5 Here is a rectangle.  
 $x$  and  $y$  are both integers.



The rectangle has a perimeter of 28 cm.

- a) Write an equation to represent the perimeter of the rectangle.

$$2x + 2y = 28$$

- b) List all the possible pairs of values for  $x$  and  $y$ .

$x = 1, y = 13$        $x = 5, y = 9$   
 $x = 2, y = 12$        $x = 6, y = 8$   
 $x = 3, y = 11$   
 $x = 4, y = 10$

Compare answers with a partner. How do you know you have found all the possible values?

- 6 Aisha is buying some stationery for school.  
She spends exactly £1  
List the possible combinations of pencils and pens that Aisha could have bought.



10 pencils      6 pens & 1 pencil  
 2 pens & 7 pencils  
 4 pens & 4 pencils

- 7 Ron has four digit cards.
- Two of the cards have the same value.
  - All of the cards are less than 10 but greater than zero.
  - All of the cards are odd.
  - The sum of the four cards is 24

Find two possible sets of cards.

Set 1	1	5	9	9
Set 2	1	7	7	9

- 8

$$2ab = 48$$

- a) Find a pair of possible values for  $a$  and  $b$ .

e.g.  $a = 6$        $b = 4$

- b) Work with a partner to find as many pairs of values as you can.