Find pairs of values (2)

1 Class 6 are trying to solve a number puzzle.

▲ + ▲ + ● = 10

a)

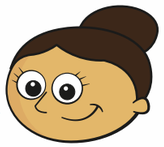
Dexter: The triangle could be 3 and the circle could be 4

Do you agree with Dexter? yes

Explain why.

3 + 3 + 4 = 10

b)



Dora: The triangle is worth 4

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

● = 2

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

Find three pairs.

▲ = 1 ● = 8

▲ = 2 ● = 6

▲ = 5 ● = 0

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.

$x = 20, y = 20$

$x = 10, y = 20$

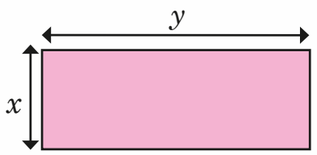
$x = 20, y = 10$

$x = 35, y = 70$

$y = 90, x = 45$

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.