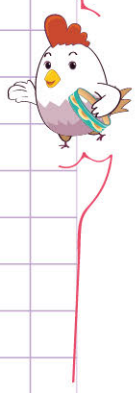
Name: ..... Class: .....

How to find two numbers based on sum and difference

1. The difference of two numbers a and b is 5. Their sum is 27. Find a and b.

2. The sum of two numbers a and b is 9. Their difference is 7. Find a and b.



3. The sum of two numbers a and b is 40. Their difference is 18. Find a and b.

Solution

mathskills4kids

Name: ..... Class: .....

How to find two numbers based on sum and difference

1. The difference of two numbers a and b is 5. Their sum is 27. Find a and b.

Let's first of all form a two variable equation with a and b as variables.

$a - b = 5$ ... ① → the difference of a and b

$a + b = 27$ ... ② → the sum of a and b

$2a + 0 = 32$ ... ① + ② → the sum of the 2 equations

$\frac{2a}{2} = \frac{32}{2}$

$a = 16$

Now, let's substitute the value of a in equation 1 above to find b.

$a + b = 27$ ...

$16 + b = 27$

$16 + b - 16 = 27 - 16$

$b = 11$

So, b = 11

Therefore, a = 16 and b = 11

2. The sum of two numbers a and b is 9. Their difference is 7. Find a and b.

Let's first of all form a two variable equation with a and b as variables.

$a + b = 9$ ... ① → the sum of a and b

$a - b = 7$ ... ② → the difference of a and b

$2a = 16$ ① + ② → the sum of the 2 equations

$\frac{2a}{2} = \frac{16}{2}$

$a = 8$

Now, let's substitute the value of a in equation 1 above to find b.

$a + b = 9$ ...

$8 + b = 9$

$8 + b - 8 = 9 - 8$

$b = 1$

So, b = 1

Therefore, a = 8 and b = 1

3. The sum of two numbers a and b is 40. Their difference is 18. Find a and b.

Let's first of all form a two variable equation with a and b as variable.

$a + b = 40$ ... ① → the sum of a and b

$a - b = 18$ ... ② → the difference of a and b

$2a = 58$ ① + ② → the sum of the 2 equations

$\frac{2a}{2} = \frac{58}{2}$

$a = 29$

Now, let's substitute the value of a in equation 1 above to find b.

$a + b = 40$ ...

$29 + b = 40$

$29 + b - 29 = 40 - 29$

$b = 11$

So, b = 11

Therefore, a = 29 and b = 11