

# Count cells that contain odd numbers

Number	Criteria	Count
10	Odd numbers	4
3	Even numbers	2
33		
15		
18		
17		

*rng = B5:B10*

EXCELJET

## Generic formula

```
=SUMPRODUCT(--(MOD(rng,2)=1))
```

## Summary

To count cells that contain only odd numbers, you can use a formula based on the [SUMPRODUCT function](#) together with the MOD function.

In the example, the formula in cell E5 is:

```
=SUMPRODUCT(--(MOD(rng,2)=1))
```

This formula returns 4 since there are 4 odd numbers in the range B5:B10 (which is named range, "rng" in the formula).

## Explanation

The SUMPRODUCT function works directly with arrays.

One thing you can do quite easily with SUMPRODUCT is perform a test on an array using one or more criteria, then count the results.

In this case, we are running a test for an odd number, which uses the [MOD function](#):

```
MOD(rng,2)=1
```

MOD returns a remainder after division. In this case, the divisor is 2, so MOD will return a remainder of 1 for any odd integer, and a remainder of zero for even numbers.

Inside SUMPRODUCT, this test is run on every cell in B5:B10, the result is an array of TRUE / FALSE values:

```
{FALSE;TRUE;TRUE;TRUE;FALSE;TRUE}
```

After we coerce the TRUE/FALSE values to numbers using the double negative, we have:

```
{0;1;1;1;0;1}
```

SUMPRODUCT then simply sums these numbers and returns 4.