

More curiosities: the perfect numbers

A **perfect number** is a natural number equal to the sum of its divisors other than itself.

For example 6 is a perfect number:

We obtain its divisors: 1, 2, 3, 6.

We take the divisors 1, 2 and 3 (other than itself) and we sum them:

$$1 + 2 + 3 = 6$$

so 6 is a perfect number.

For example 8 isn't a perfect number:

We obtain its divisors: 1, 2, 4, 8

We take the divisors 1, 2 and 4 (other than itself) and we sum them:

$$1 + 2 + 4 = 7$$

this sum is different of 8, so 8 isn't a perfect number.

Activities

- a) A prime number, is it a perfect number?. Explain your answer.
- b) Find out all perfect numbers from 1 up to 30
- c) Find out all perfect numbers up to 40, if you don't find anyone, ask the teacher for the next perfect number.