Factor Patterns

A factor is a number that is multiplied by another number to give a product.
Factor x factor = product

Activity

Caitlin and Ese are finding the factors of numbers.

1. Make a list of the numbers from 1 to 20 and write all the factors for each number.

The factors of 6 are 1, 2, 3, and 6 because 1 x 6 = 6 and 2 x 3 = 6.

2. Caitlin notices that half the factors of 6 are even numbers. (2 and 6 are even, and 1 and 3 are odd.)

   a. Which numbers in your list have half their factors even?

   b. Can you see a pattern in these numbers? Describe it.

   c. What will be the next two numbers in this pattern?

   d. Is 102 in this pattern? Explain.

3. 

For some numbers in the list, all the factors are even numbers except for 1. For example, the factors of 8 are 1, 2, 4, and 8.

   a. Which numbers in your list have factors that are all even numbers except for 1?

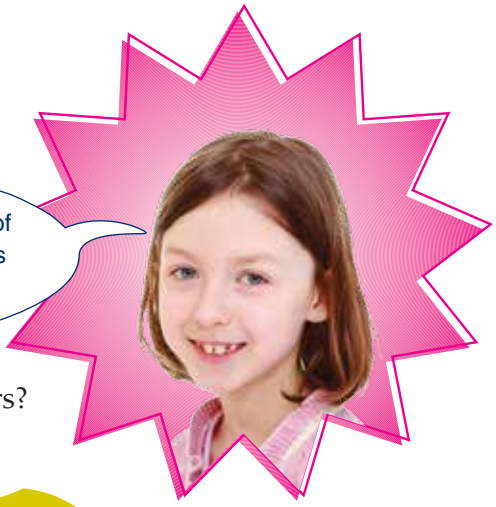
   b. Describe the pattern the numbers make.

   c. What will be the next number in this pattern?

   d. What will be the 10th number in this pattern?

4. 

Some numbers in the list have an odd number of factors. For example, 1, 2, and 4 are the factors of 4, so 4 has 3 factors.



   a. Which numbers in your list have an odd number of factors?

   b. What pattern do these numbers make?