

# Largest prime factor

## Problem 3 (<https://projecteuler.net/problem=3>)

The prime factors of 13195 are 5, 7, 13 and 29.

What is the largest prime factor of the number 600851475143 ?

## Solution

```
In [1]: z = 600851475143
        q = (int(z ** 0.5) // 2) * 2 + 1

        for x in range(q, 3, -2):
            if z % x == 0:
                if all( x % y for y in range(3,int(x ** 0.5) + 1)):
                    print(x)
                    break
```

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