12. The nth triangular number is the sum of $1+2+3 \cdots n$.
What is the value of the first triangular number to have over five hundred divisors?

Use the divisor function to get number of divisors (multiply exponents of prime factors + 1)

```
require 'prime'
def prime_factors(n)
  Prime.prime_division(n).to_h
end

def count_divisors(n)
  return 1 if n == 1
  factors = prime_factors(n)
  factor_powers = factor.values
  factor_powers.map! { |f| f + 1 }
  factor_powers.reduce(:*)
end

def triangular(n)
  (n * (n + 1)) / 2
end
```

↳ 4

```
def triangular_divisors(factors)
  nth_tri = 1
  loop do
    tri = triangular(nth_tri)
    if count_divisors(tri) > factors
      return tri
    end
    nth_tri += 1
  end
end
```