

August 22, 2017

- \* Student Score Calculator due Monday
- \* Start Reading COR 1.1

Aug 22-8:56 AM

Sets: a collection of things.

$$S = \{1, 3, 5, 7, \dots\}$$

↑ name →      ↑ ellipsis "so on"

$$S_2 = \{1, 3, \dots\}$$

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Numeric Sets

1)  $\mathbb{N} = \{1, 2, 3, \dots\}$   
(natural)

membership: • smallest number is "1"  
• positive

members: 55, 1003, 999099

$5 \in \mathbb{N}$   
↑  
element of

$\frac{4}{5} \notin \mathbb{N}$

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$n$  is a member of  $\mathbb{N}$  if  $n$  can be written as the product of two other numbers: called divisors or factors of  $n$ .

e.g.  $12 = 4 \cdot 3$   
factors or divisors

$\cdot \frac{12}{4} = 3$   
 $\cdot \frac{12}{3} = 4$

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if the factors of some number  $p$  are  $p$  and "1", then we say that  $p$  is prime.

$$7 = 7 \cdot 1$$

$\cdot \frac{7}{7} = 1$   
 $\cdot \frac{7}{1} = 7$

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In the set  $\mathbb{N}$

①  $n = m \cdot k$

②  $p = p \cdot 1$

Result

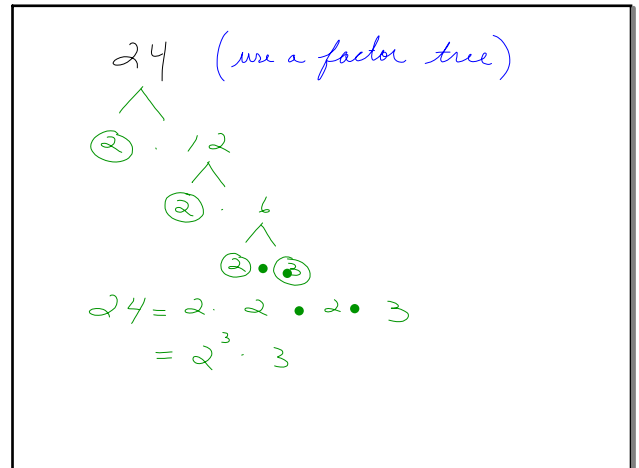
① Either a number  $n$  is prime

② Or the number is composite

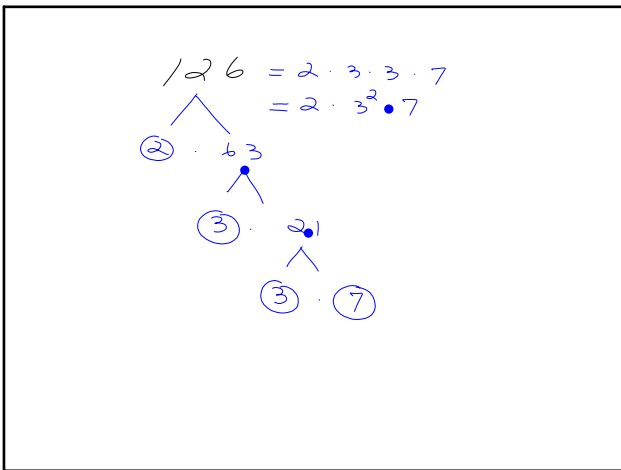
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The Fundamental Theorem  
of Arithmetic  
any number not prime  
can be written as a  
Product of primes.

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