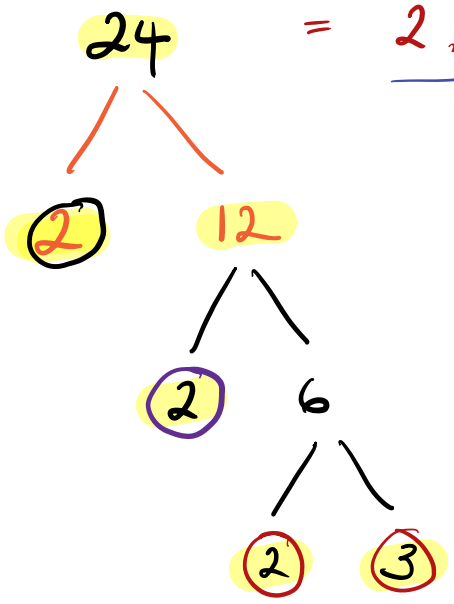
Product of primes

even



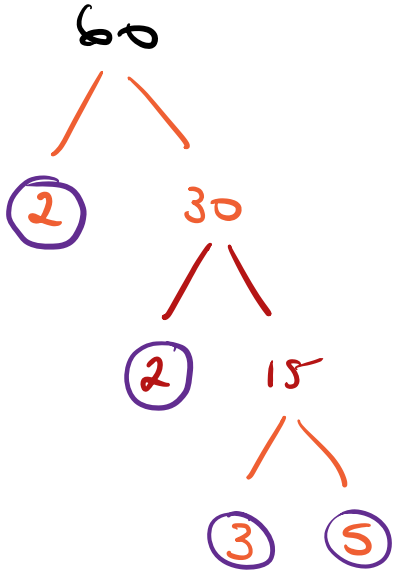
$= 2 \times 2 \times 2 \times 3$

index notation

$2^3 \times 3$

[2, 3, 5, 7, 11, 13, 17, 19]

eg2



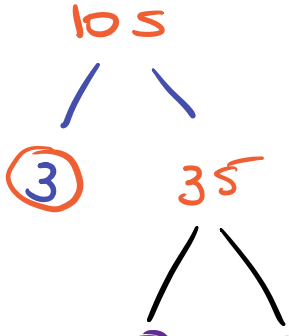
$60 = 2 \times 2 \times 3 \times 5$

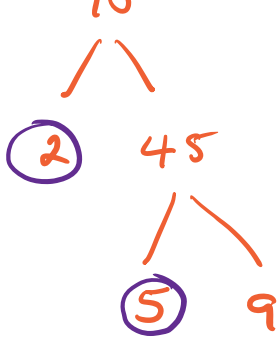
$2^2 \times 3 \times 5$

eg. LCM

HCF

$$3 \overline{)105} \quad 35$$





5 7

$105 = 3 \times 5 \times 7$

3 3

$90 = 2 \times 3 \times 3 \times 5$

$= 2 \times 3^2 \times 5$

HCF

105		3	$\times 5$	$\times 7$
90	$2 \times$	3^2	$\times 5$	

$3 \times 5 = 15$ (HCF)

LCM

$2 \times 3^2 \times 5 \times 7$

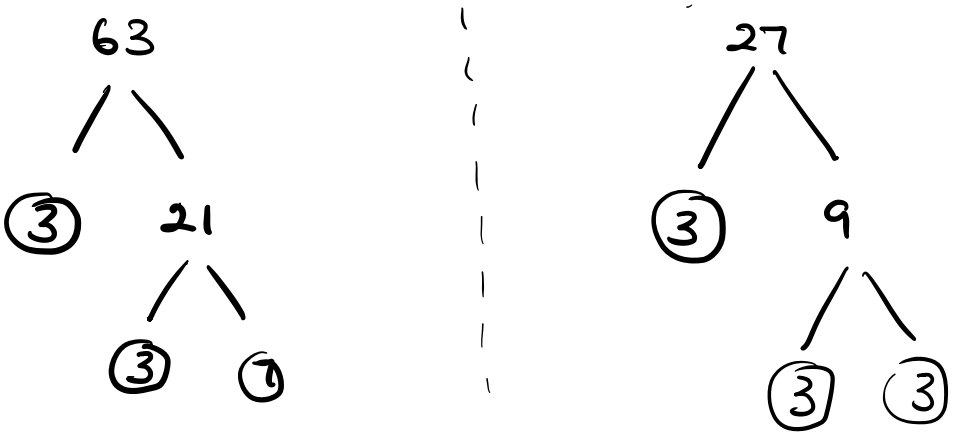
$\underbrace{2 \times 9}_{18} \times \underbrace{5 \times 7}_{35}$

$= 630$

×	10	8
30	300	240
5	50	40

630

eg 63 and 27



63 = 3 × 3 × 7

$3^2 \times 7$

27 = 3 × 3 × 3

$= 3^3$

63 : $3^2 \times 7$

27 : 3^3

HCF $3^2 = 9$

LCM $3^3 \times 7 = 189$

27
7
189
4

Divisibility tests

A number is divisible by:

- 2 if it ends with the digit 0, 2, 4, 6 or 8
  For example: 384 ends with a 4 and is an even number
- 3 if the sum of all the digits is divisible by 3
  For example: 162 where 1 + 6 + 2 = 9, which is divisible by 3
- 4 if the number formed by the last two digits is divisible by 4
  For example: 148 where 48 is divisible by 4
- 5 if the last digit is a 0 or 5
  For example: 145 or 2090
- 6 if it is divisible by both 2 and 3
  For example: 456 where 6 is even and 4 + 5 + 6 = 15, which is divisible by 3