9 - 1
Factors and Greatest Common Factors

prime number: only divisible by 1 and itself

Ex: 2

5, 7, 11, 13, 17, 23, ...

Ex: 3

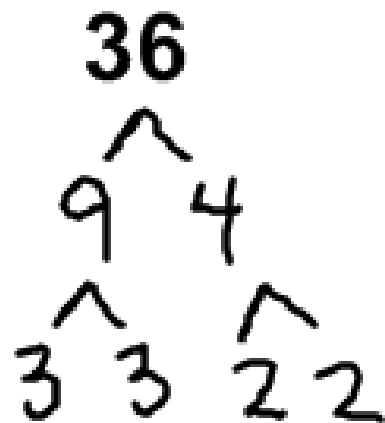**composite number**: # > 1 with more than 2 factors
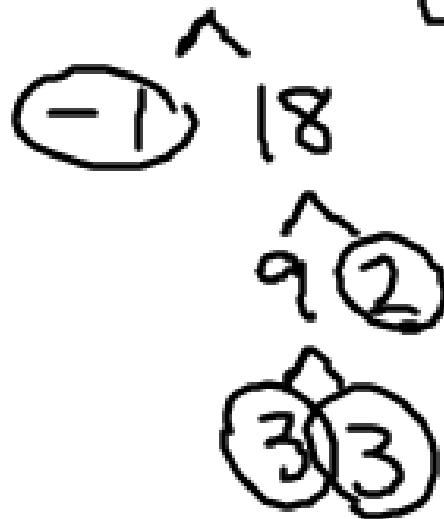
Ex: 12

Ex: 35

Factor each number.

Ex: 36

$$3 \cdot 3 \cdot 2 \cdot 2$$

Tree diagram:
- 36 → 9, 4
- 9 → 3, 3
- 4 → 2, 2

Factor each number.

Ex: - 18 $\boxed{-1 \cdot 3 \cdot 3 \cdot 2}$

(-1)   18

9   (2)

(3)(3)

Factor each number.

Ex: $12a^2b^3$

(2) 6

(3)(2)

$2 \cdot 3 \cdot 2 \cdot a \cdot a \cdot b \cdot b \cdot b$

greatest common factor (GCF):

greatest number that is a
factor of both expressions

Find the greatest common factor.

Ex: 18 and 24   (6)

1, 2, 3, (6), 9, 18

1, 2, 3, 4, (6), 8, 12, 24

Find the greatest common factor.

Ex: $8x^2y$ and $10xy^3z$

$2xy$

Find the greatest common factor.

Ex: $9a^3b^2$ and $12ab^3$

$$3ab^2$$

Find the greatest common factor.

Ex: $15x^3y^2$ and $40x^2yz$

$5x^2y$

Homework:

p.478 #32 - 58 even