Alg. 1 BE Tuesday 1-13-09

If the binomial product is one of the 3 special cases, use the "pattern" for it and mental math. Otherwise, use the D.P. w/Arrows (i.e., "FOIL")

① $(x+7)^2$

② $(3x-4)(3x-4)$

③ $(2x-y)(2x+y)$

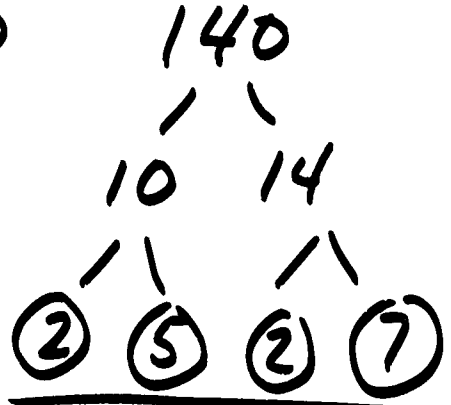
④ $(5x-2)(5x-3)$

⑤ Use a prime factorization to find all the factors of 128.

- Homework review: Pg 461 # 5-10
  Pg 477 # 1, 4-9.

Prime Factorization of a Negative Integer: Ex 3 Pg 475

$-140 \Rightarrow$



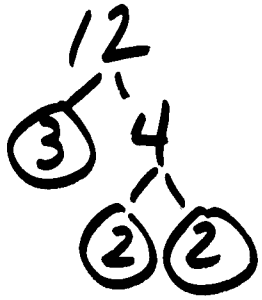
$-140 \Rightarrow \boxed{-1 \cdot 2 \cdot 2 \cdot 5 \cdot 7}$

just add -1 to the P.F. of 140

Prime Factorization of a Monomial

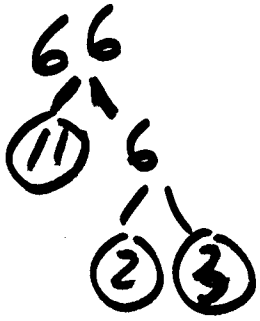
Ex 4 Pg 476

(A) $12a^2b^3$



$\Rightarrow \boxed{2 \cdot 2 \cdot 3 \cdot a \cdot a \cdot b \cdot b \cdot b}$

(b) $-66pg^2$



$\boxed{-1 \cdot 2 \cdot 3 \cdot 11 \cdot p \cdot g \cdot g}$

GCF Greatest Common Factor

(EX) GCF of 8, 12 is 4

Since: factors of 8 ⇒ 1, 2, 4, 8

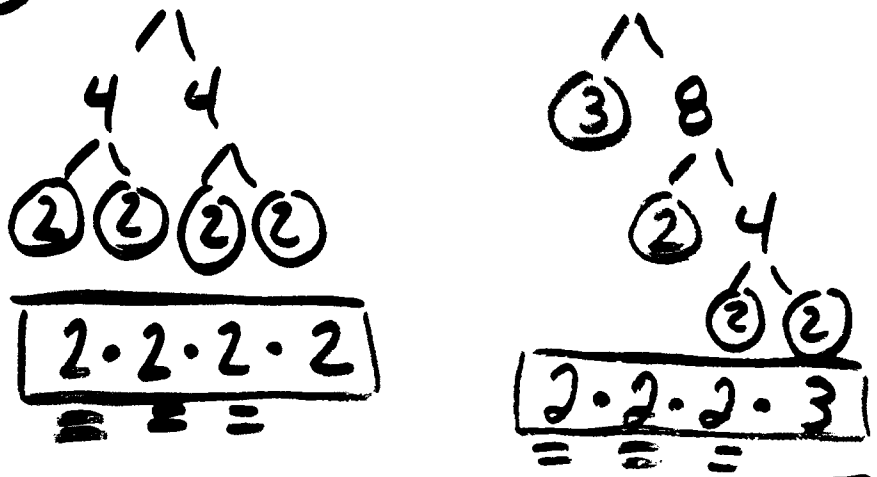
factor of 12 ⇒ 1, 2, 3, 4, 6, 12

4 is the greatest common factor.

1, 2, and 4 are common factors of 8, 12.

(EX) Using a Prime Factorization to Find the GCF of two or more integers ⇒ {MULTIPLY THE SHARED prime (common FACTORS}

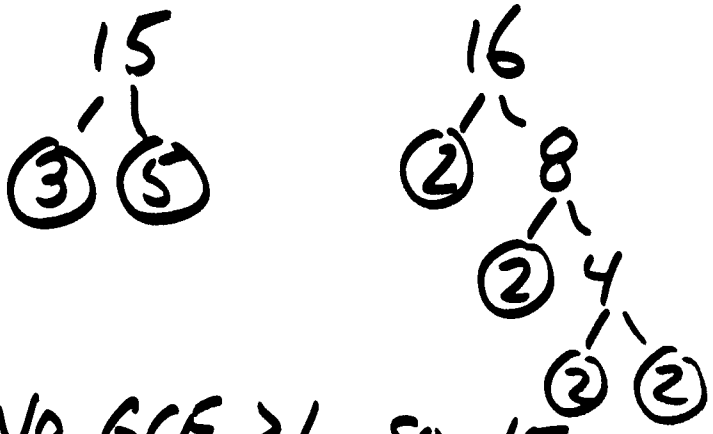
(EX) 16 and 24



SHARE 2·2·2 = 8 = GCF

If the GCF of a set of integers is 1, then the integers are called "RELATIVELY PRIME"

Ex 5A Pg 476 Find GCF of 15 and 16



NO GCF > 1, SO 15 AND 16 ARE "RELATIVELY PRIME" ⇒ they are NOT primes, but are prime when the factors are compared to each other.

(Ex) What is the GCF of x^2 and x^5

$x^2 \Rightarrow x \cdot x$

$x^5 \Rightarrow x \cdot x \cdot x \cdot x \cdot x$

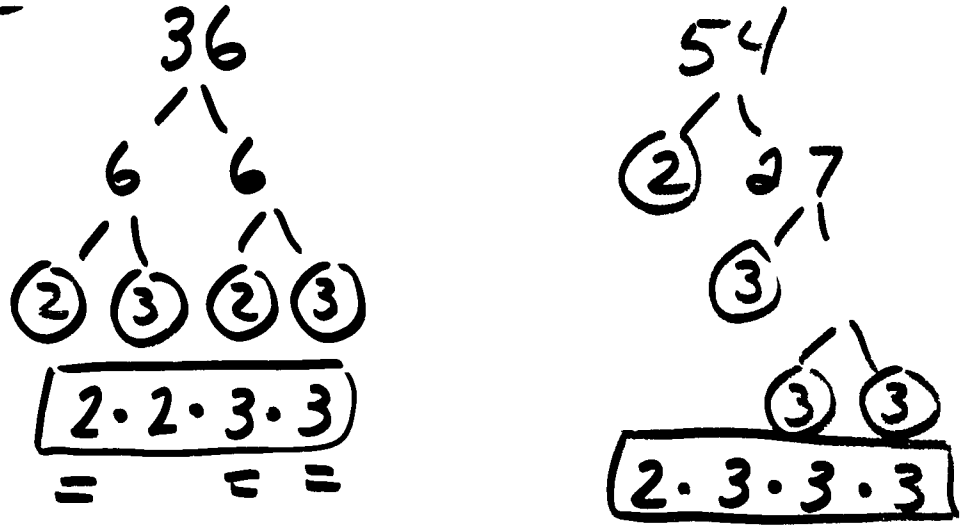
x^2 is GCF

Putting the GCF of numbers and variables together to find the GCF of monomials:

(Ex) GCF of $4x^2$ and $10x^5$

GCF is $\boxed{2x^2}$

Ex 5b Pg 476 GCF of $36x^2y$ and $54xy^2z$



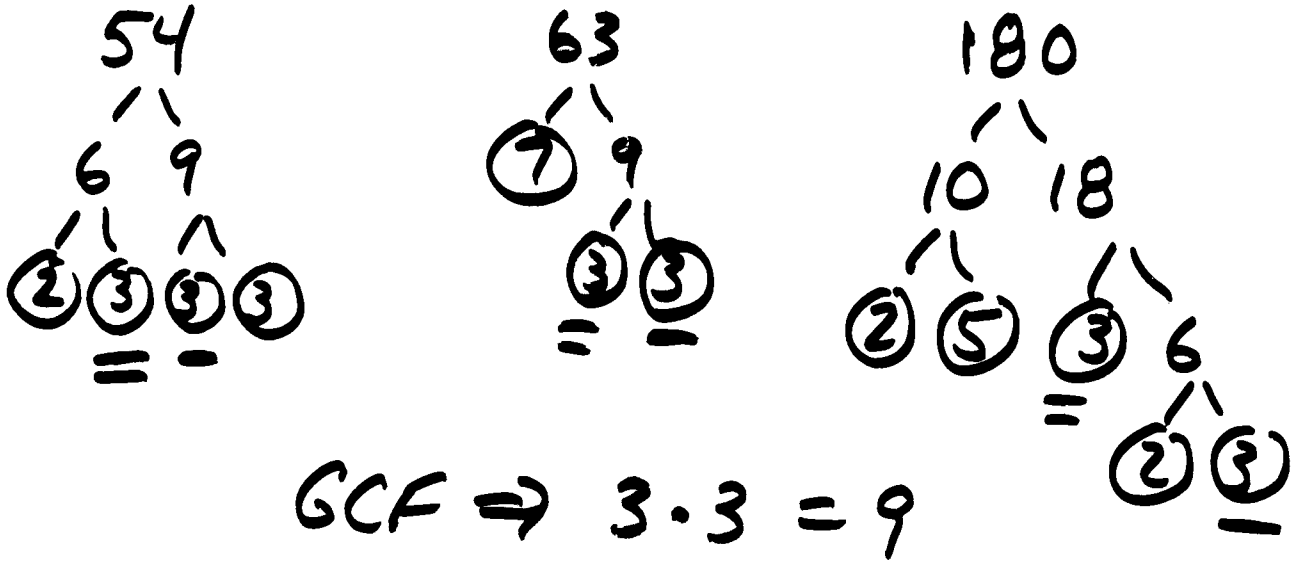
GCF = 2·3·3 = 18

∴ GCF = $\boxed{18xy}$

Ex

Find the GCF of

$54x^2y^3$, $63xy^2$, $180xy$



GCF $\Rightarrow$ $3 \cdot 3 = 9$

$\therefore$ GCF $\Rightarrow$ $\boxed{9xy}$

Homework / Classwork:

Pg 478 # 40-42

48-61