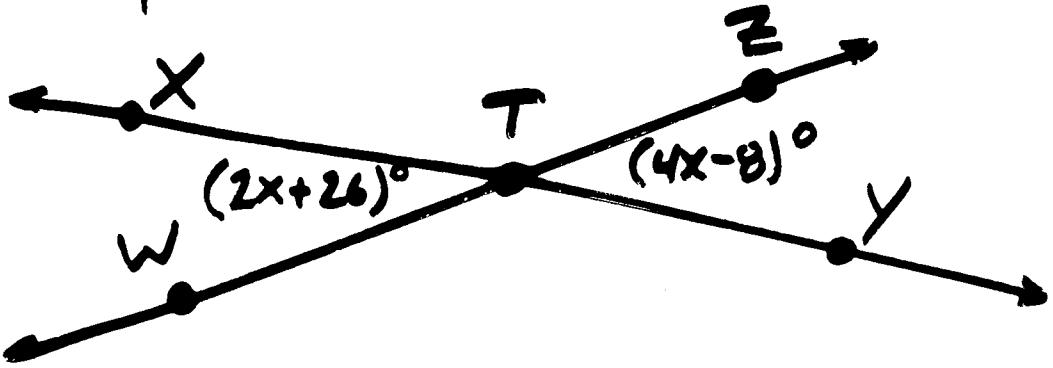
BE-1B WEDNESDAY 11-14-07

① Lines XY and ZW intersect (meet) at point T. What is $m\angle ZTY$?



Note: (anything)° ← this means "degrees" when used with angles

② Use a prime factorization to find all the factors of 40

ANSGE WB

① Pg. 68 # 9. ② NONE

It is possible to do a prime factorization of a monomial. The "number part" is done as usual by using a factor tree. The variable are just written out "the long way."

Ex 4 Pg 476

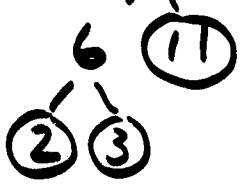
Factor each monomial completely

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

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

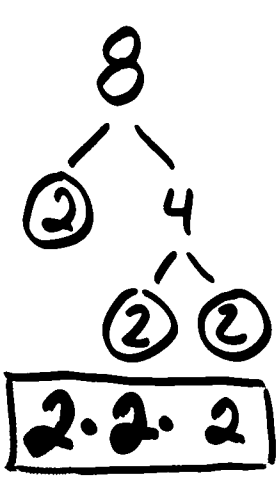
THIS IS THE PRIME FACTORIZATION OF THIS MONOMIAL.

(B.) $-66pg^2$

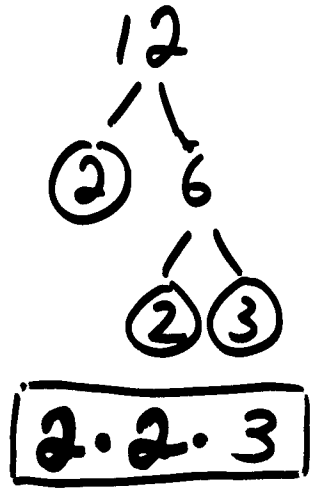


$-1 \cdot 2 \cdot 3 \cdot 11 \cdot p \cdot g \cdot g$

Do 8 and 12 have any factors "in common"? Which means, do they share any factors? Which is greatest?



Factors:
1, 2, 4, 8



Factors:
1, 2, 3, 4, 6, 12

4 is called the Greatest Common Factor or GCF

It can be found by multiplying their shared prime factors.

Many GCF's can be found without using factor trees. Find the GCF's of each pair of numbers:

21, 24 GCF is 3

14, 22 GCF is 2

12, 18 GCF is 6

Many pairs of numbers do not have a GCF (other than 1), examples:

8, 9 No GCF

15, 22 No GCF

Monomials have GCF's too. Find the GCF of each pair of variables:

x^3, x^5 GCF is x^3

XXX, XXXXX Since XXX is common to each factor
Factors, Factors

FIND THE GCF'S (CONTINUED):

x^2, x^5 GCF is x^2

x, x^2 GCF is x

x, x GCF is x

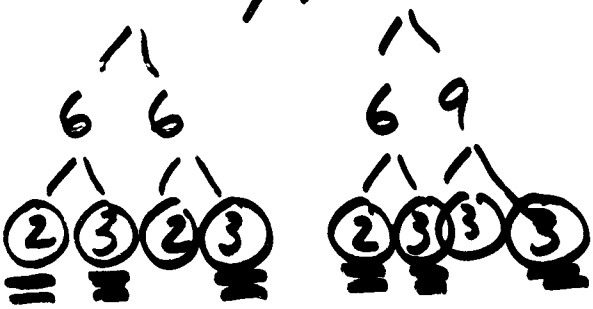
PUTTING NUMBERS AND VARIABLES TOGETHER — FIND THE GCF for EACH PAIR OF MONOMIALS:

$2x^3, 6x^5$ GCF is $2x^3$

$3x^2, 15x^3$ GCF is $3x^2$

$5x^4y, 10x^5y^2$ GCF is $5x^4y$

$36x^2y, 54xy^2z$ GCF is $18xy$



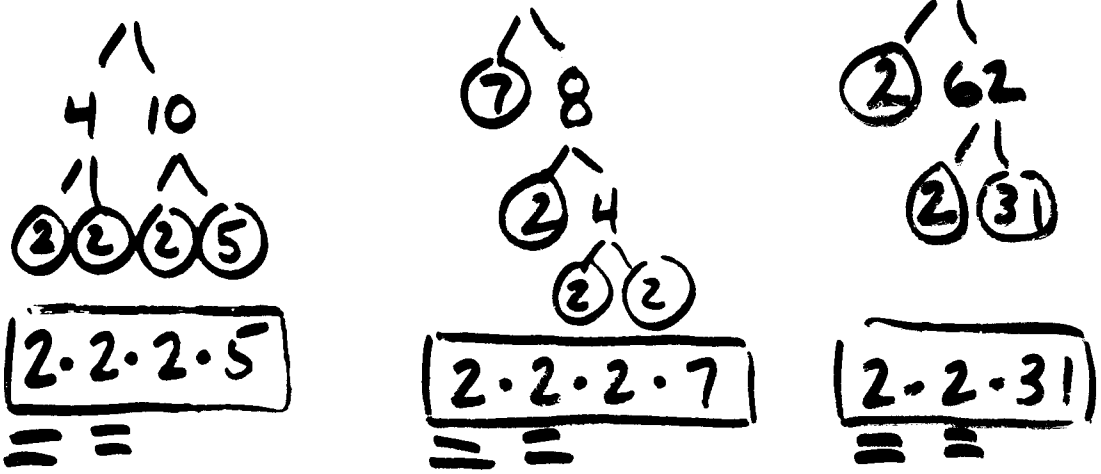
Z IS NOT SHARED, CANNOT BE IN THE GCF

$2 \cdot 3 \cdot 3 = 18$ "MULTIPLY SHARED prime FACTORS

Ex 5 Pg 476

Find the GCF of:

$40xy^2$, $56x^3y^2$, $124x^2y^3$



$2 \cdot 2 = 4$ = GCF of 40, 56, 124

∴ GCF is $\boxed{4xy^2}$

Practice: Pg 477 # 7 to 15

Homework: Pg 478 # 32 to 34
40 to 42
54 to 56