

BE-1B | TUESDAY 10-16-09

① Solve $4x + 3 > x - 3$

② Solve $-\frac{2}{3}y > y + 2$

③ EVALUATE:

Ⓐ 2^4

Ⓓ -5^2

Ⓑ $(\frac{1}{3})^2$

Ⓔ $(-5)^3$

Ⓒ $(-5)^2$

Ⓕ $(2x)^2$

AHSGE WB

Ⓐ Page 42 # 3

Ⓑ Page 42 # 4

MONOMIAL

A number, a variable,
or the product of a
(multiplication)
number and a variable (or
many variables)

Examples of
monomials

$$-5$$

$$x$$

$$y$$

$$xy$$

$$5xyz^2$$

$$\frac{1}{2}abc$$

$$\frac{x}{3}$$

$$-26a^4b^8c^{12}xyz$$

Examples of not
monomials

$$x \div y$$

$$a + b$$

$$\frac{1}{x} \cdot y$$

Ch. 8-1 "Multiplying Monomials"

Variable with exponents often show up when multiplying monomials

$$\text{ex) } (5x^7)(x^6)$$

THERE is a shortcut! Let's find it...

$$xxxxxxx = x^7 \quad xxxxxx = x^6$$

$$\begin{aligned} \text{So } x^7 \cdot x^6 &= (xxxxxxx)(xxxxx) \\ &= ? \\ &= x^{13} \end{aligned}$$

Do you see the shortcut?

When you are multiplying powers with the same base, just add the exponents.

An algebraic way of expressing this rule is:

Let m and n be any integer and a be any real number, then

$$\boxed{a^m a^n = a^{m+n}} \quad \text{Multiplication Rule (for Exponents)}$$

* MUST BE SAME base

$$x^4 x^8 = x^{12}$$

$$x^4 y^8 = x^4 y^8$$

$$3^2 3^3 = 3^5 = 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$$

$$2^2 3^3 = 2^2 3^3 = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 3$$

So how do you use the M.R.F.E.
to simplify multiplying monomials?

Numbers • numbers and use MRFE to simplify
exponents with the same base

$$* \text{ Ex) } (5x^7)(x^6) = (5 \cdot 1)(x^7 \cdot x^6) \\ = \boxed{5x^{13}}$$

$$\text{Ex) } (2x^5)(4x^2) = \boxed{8x^7}$$

$$2 \cdot 4 \cdot (xxxxx)(xx) \quad \text{why?}$$

$$* \text{ Ex) } (4ab^6)(-7a^2b^3) = \boxed{-28a^3b^9}$$

$\uparrow$
a

Look: don't forget this "1"!

* Ex 2 Pg 411

Practice: Pg 413 # 4-8, # 15-26

Hw: • Read Ch 8-1

• Pg 837 Lesson 8-1 # 1-9