

Alg. 1A-BE MONDAY 4-19-10

① $8x^2(4x^5) = ?$

② $8x^2 - 4x^5 = ?$

③ $2x^3(4x^2 + 5x^6) = ?$

Single term • 2-term
POLYNOMIAL POLYNOMIAL

MONOMIAL • POLYNOMIAL

Ch 8-6 Multiplying A Polynomial
By A Monomial

How? Use Arrows and the D.P. and E.R.
distributive ^{EXPONENT RULE} property

$2x^3(4x^2 + 5x^6)$

$8x^5 + 10x^9$

OK but...

OR $10x^9 + 8x^5$

Descending order
By Degree is BEST

Always combine "like terms"



- same variable(s)
- variable(s) have same exponents.

EX 1
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$$-2x^2(3x^2 - 7x + 10)$$

CHECK FOR LIKE TERMS

$$-2x^2(3x^2 - 7x + 10) \text{ draw arrows}$$

$$\boxed{-6x^4 + 14x^3 - 20x^2}$$

Ex 2
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Draw Arrows

$$4(3d^2 + 5d) - d(d^2 - 7d + 12)$$

$$\begin{array}{c} \uparrow \\ \{-1d\} \\ \underline{12d^2} + 20d - d^3 + \underline{7d^2} - 12d \end{array}$$

$$19d^2 + 8d - d^3$$

or $\boxed{-d^3 + 19d^2 + 8d}$

(Ex)

$$3(2x^2 - 4x - 15) + 6x(5x + 2)$$

$$\underline{6x^2} - 12x - 45 + \underline{30x^2} + 12x$$

DONT NORMALLY SHOW ANY ZERO TERMS

$$36x^2 + 0x - 45$$

$$\boxed{36x^2 - 45}$$

Using the methods of multiplying monomial & polynomials to simplify and then solve equations!

EX 4
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Solve

LEFT $\approx$ RIGHT

$$y(y-12) + y(y+2) + 25 = 2y(y+5) - 15$$

$$\underline{y^2}(-12y) + \underline{y^2}(+2y) + 25 = 2y^2 + 10y - 15$$

$$\begin{array}{rcl} 2y^2 - 10y + 25 & = & 2y^2 + 10y - 15 \\ -2y^2 & & -2y^2 \end{array}$$

$$\begin{array}{rcl} -10y + 25 & = & 10y - 15 \\ +10y & & +10y \end{array}$$

$$\begin{array}{rcl} 25 & = & 20y - 15 \\ +15 & & +15 \end{array} \quad \begin{array}{l} \text{Now just} \\ \text{A 2-step} \\ \text{undo} \end{array}$$

$$\frac{40}{20} = \frac{20y}{20} \quad \therefore \boxed{y=2}$$

$$\begin{array}{rcl} \underline{\text{CK}} (2)[(2)-12] + (2)[(2)+2] + 25 & \stackrel{?}{=} & 2(2)[(2)+5] - 15 \\ 2[-10] + 2[4] + 25 & \stackrel{?}{=} & 4[7] - 15 \\ -20 + 8 + 25 & \stackrel{?}{=} & 28 - 15 \\ 13 & \stackrel{?}{=} & 13 \quad \checkmark \end{array}$$

Summary :: Know GRE

- Know how to combine/deduce like terms
 - Know $\ln$ exponent rules
 - Know DP & how to get terms out of parentheses jail.
 - * Know sign rules for $+$, $-$, $\times$, $\div$
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Homework: Pg. 446 # 3-11 odd.