

ACT ① Simplify $(3x - 4y^2)(3x + 4y^2)$

② Simplify $-8x^3(7x^6 - 3x^5)$

③ In the school cafeteria, students choose their lunch from 3 sandwiches, 3 soups, 4 salads, and 2 drinks. How many different lunches are possible for a student who chooses exactly 1 sandwich, 1 soup, 1 salad, and 1 drink.

ANS

① $(3x - 4y^2)(3x + 4y^2)$
 $(a - b)(a + b)$ form
 $\Rightarrow a^2 - b^2$

$\therefore \boxed{9x^2 - 16y^4}$

DIFFERENCE OF SQUARES

$(a + b)(a - b)$ are called "conjugates"

② $-8x^3(7x^6 - 3x^5)$

$\boxed{-56x^9 + 24x^8}$

③ FUNDAMENTAL Counting Principle

Total possible lunch combinations are

$3 \cdot 3 \cdot 4 \cdot 2 = \boxed{72}$

Alg. 2 Homework review: Pg 231-232 #4-14
#48-50

④ $2a + 5b$ Binomial, degree 1

⑤ $\frac{1}{3}x^3 - 9y$ Binomial, degree 3

⑥ $\frac{mW^2 - 3}{nZ^3 + 1}$ No, NOT A product of number and one or more variables.

⑦ $(2a + 3b) + (8a - 5b)$

$$\underline{2a} + 3b + \underline{8a} - 5b = \boxed{10a - 2b}$$

⑧ $(x^2 - 4x + 3) - (4x^2 + 3x - 5)$

$$\underline{x^2 - 4x} + 3 - \underline{4x^2 - 3x} + 5$$

$$\boxed{-3x^2 - 7x + 8}$$

⑨ $2x(3y + 9)$

$$\boxed{6xy + 18x}$$

⑩ $2p^2q(5p^2q - 3p^3q^2 + 4p^4q^3)$

$$\boxed{10p^4q^2 - 6p^5q^3 + 8p^6q^4}$$

or $8p^6q^4 - 6p^5q^3 + 10p^4q^2$ Descending order by degree.

$$(11) \quad (y-10)(y+7)$$

$$\begin{array}{r} y^2 + 7y \\ -10y \quad -70 \\ \hline y^2 - 3y - 70 \end{array}$$

$$(12) \quad (x+6)(x+3)$$

$$\begin{array}{r} x^2 + 3x \\ + 6x + 18 \\ \hline x^2 + 9x + 18 \end{array}$$

$$(13) \quad (2z-1)(2z+1)$$

$$\begin{array}{r} 4z^2 + 2z \\ -2z - 1 \\ \hline 4z^2 - 1 \end{array}$$

$$(14) \quad (2m-3n)^2 = (2m-3n)(2m-3n)$$

$$= 4m^2 - 6mn - 6mn + 9n^2$$

$$\boxed{4m^2 - 12mn + 9n^2}$$

$$\textcircled{48} \quad x^{-3} y^2 (y x^4 + y^{-1} x^3 + y^{-2} x^2)$$

$$x^1 y^3 + x^0 y^1 + x^{-1} y^0$$

$$\boxed{xy^3 + y + \frac{1}{x}}$$

$$\textcircled{49} \quad (3b-c)^3$$

$$(3b-c)(3b-c)(3b-c)$$

$$(3b-c)(9b^2 - 3bc - 3bc + c^2)$$

$$(3b-c)(9b^2 - 6bc + c^2)$$

$$27b^3 - 18b^2c + 3bc^2 - 9b^2c + 6bc^2 - c^3$$

$$\boxed{27b^3 - 27b^2c + 9bc^2 - c^3}$$

$$\textcircled{50} \quad (x^2 + xy + y^2)(x - y)$$

$$x^3 - x^2y$$

$$+ x^2y - xy^2$$

$$+ xy^2 - y^3$$

$$\boxed{x^3 - y^3}$$

Ch. 5-3 Dividing Polynomials

Dividing A Polynomial by a Monomial

EX 1
Pg 233

$$\frac{4x^3y^2 + 8xy^2 - 12x^2y^3}{4xy}$$

$$\frac{4x^3y^2 + 8xy^2 - 12x^2y^3}{4xy}$$

$$\frac{4x^3y^2}{4xy} + \frac{8xy^2}{4xy} - \frac{12x^2y^3}{4xy}$$

$$\boxed{x^2y + 2y - 3xy^2}$$

• Homework/Classwork:

- Pg 276-277 # 1-24 & Read the "Concept Summary" and look at the examples.

- Pg 236 # 15, 17.

NOTE: NO MORE NEW MATERIAL BEFORE EXAM 2 THURSDAY.