
Chapter 3.3

Quality – Accuracy – Transfer – 100%

Section 1. Addition of Algebraic Expressions

1. Consider the Polynomial: $3a^2 - 2ab + a^2 - b + 5ab$
Simplify by Commutative Property: _____

2. Simplify the Following: $x^2 + 5x - 3 + 4x + 5$
Simplify by Commutative Property: _____

3. Simplify the Following: $x - 3y - 5x + 2y$
Simplify by Commutative Property: _____

4. Simplify the Following: $4y - x + 3z - 7z + 3y - 10x$
Simplify by Commutative Property: _____

5. Simplify the Following: $3x^3 + 7x - 5 - 3x^2 + 9 + 2x - x^3$
Simplify by Commutative Property: _____

Other Notations:

6. Add: $(2xy - 5a + 2x) + (4xy + 3a - x)$

7. Add: $(3x + 5) + (6x - 8)$

8. Add: $(15x^3 + x - 18) + (10x^3 - 3x + 13)$

Section 2. Subtraction of Polynomials and Algebraic Expressions.

1. $-(6b^3 - 3as + 4x^2) - (2as - 3b^3 - 6x^2)$ _____

2. Subtract $(2x^2 - 6x + 4)$ from $(x^2 - 6x + 5)$ _____

3. Subtract $5 - 3x$ from the sum of $6s + 5 - 2x$ and $5a^2 - 4x + 2$ _____

****Note:** as we become more proficient, _____ becomes _____.
There is no more subtraction.

Chapter 3. 4: Multiplication of Algebraic Expressions

1. Review – The Product Rule: _____ = _____

2. Practice:

a. $(a^4)(a^3)$ _____ = _____

b. $(cd^2)(c^2d^3)$ _____ = _____

c. $(-5a^3b)(-4a^4b^5)$ _____ = _____

d. $\left(\frac{2}{3}x^2y\right)(-12x^3y^4)$ _____ = _____

1. Review – The Power Rule: _____ = _____

2. Practice:

a. $(a^4)^3$ _____ = _____

b. $(5ab)^2$ _____ = _____

c. $(3na^5)^4$ _____ = _____

d. $(m^4)^2(m^2)^3$ _____ = _____

Practice Set #1 – Multiplication of a Monomial by a Polynomial

1. Multiply each expression and show all the “work”

a. $2a(a + 3x)$ _____ = _____

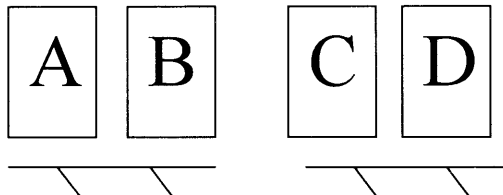
b. $(8y)(8y + t^2)$ _____ = _____

c. $(-5y^2)(-uy^3 - hpy)$ _____ = _____

Practice Set #2 – Multiplication of a Binomial x Binomial

Blockbuster Video has a “Weekend Special”. Two shelves have 2 videos on them each. You can rent 2 videos for the price of one, but you can only take one video from each shelf. The combinations are:

FIRST: _____
 OUTER: _____
 INNER: _____
 LAST: _____



The first letters of each of these combinations spells: _____

1. F.O.I.L. the following:

a. $(x + 5)(x + 2)$

b. $(x + 7)(x - 4)$

c. $(x - 10)(x + 3)$

d. $(x - 5)(x - 4)$

e. $(4x - 5y)(5x + 2y)$

f. $(xs + 7yt)(yt - 4xs)$

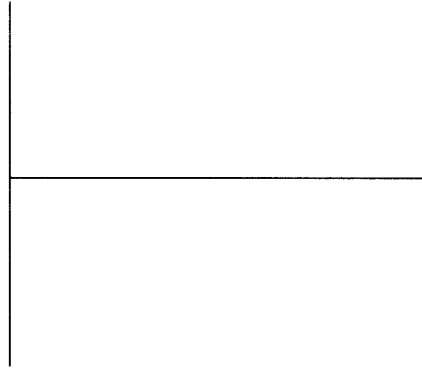
2. Multiplying Multinomials – “Follow The Path”

a. Consider: $(2x + 3)(x^2 - 4x - 5)$

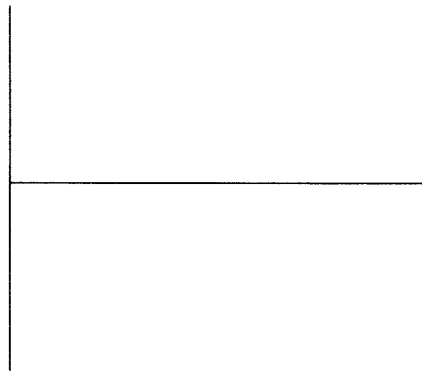
b. Practice: $(5x - 3)(2x^2 - 3x + 1)$

3. Classic Multinomial Products

a. $(a + 5)(a - 2)(a - 3)$



b. $(a + 5)^3$



4. Identify each of the equations as true or false.

a. $(a + b)^2 = a^2 + b^2$ _____ = _____

b. $(x - 3)^2 = x^2 - 9$ _____ = _____

c. $(x - 1)^2 = x^2 - 2x + 1$ _____ = _____

Homework Section:

Page(s)	Section(s)	Problem(s)
88 → 90	3.3	1 → 25 Odd, 29, 31
96 → 97	3.4	1 → 51 Odd, 57