

Multiplying Two Binomials

Definitions:

- **Binomial:** A binomial expression is an algebra expression that involves two terms.
- **Terms:** Terms are “numbers” that are either added or subtracted.
- **Monomial:** Monomials are expressions containing just one term.

This video lesson reviews:

- The difference between multiplying:

$$\text{Two Monomials: } (3x^2y)(-5x^4y) = -15x^6y^2$$

$$\text{Two Binomials: } (x + 3)(x + 5) = x^2 + 8x + 15$$

- The **FOIL** Method for multiplying binomials:

First times First
Outside times Outside
Inside times Inside
Last times Last

The problems shown on this video are:

1. Evaluate $(7 + 3)(7 + 5)$ using two different methods.
2. Multiply $(x + 3)(x + 5)$
3. Using the FOIL method multiply $(x + 3)(x + 5)$
4. Using the FOIL Method multiply $(2x - 3)(4x + 5)$



Click the video link to learn more about multiplying binomials. Then continue with the practice problems on the next page.

Practice Problems ➔

Practice Problems

Multiply the following:

1. $(4x^2y^3)(-6x^4y)$

2. $(x + 4)(x + 9)$

3. $(x - 7)(x + 3)$

4. $(a - 6)(a - 5)$

5. $(3y + 10)(2y - 7)$

6. $(x - 8)(x + 8)$

7. $(5x + 4)(5x - 4)$

Answers to Practice Problems →

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$$1. \quad (4x^2y^3)(-6x^4y) = -24x^6y^4$$

F O I L

$$\begin{aligned} 2. \quad (x + 4)(x + 9) &= x^2 + 9x + 4x + 36 \\ &= x^2 + 13x + 36 \end{aligned}$$

$$\begin{aligned} 3. \quad (x - 7)(x + 3) &= x^2 + 3x - 7x - 21 \\ &= x^2 - 4x - 21 \end{aligned}$$

$$\begin{aligned} 4. \quad (a - 6)(a - 5) &= a^2 - 5a - 6a + 30 \\ &= a^2 - 11a + 30 \end{aligned}$$

$$\begin{aligned} 5. \quad (3y + 10)(2y - 7) &= 6y^2 - 21y + 20y - 70 \\ &= 6y^2 - y - 70 \end{aligned}$$

$$\begin{aligned} 6. \quad (x - 8)(x + 8) &= x^2 + 8x - 8x - 64 \\ &= x^2 - 64 \end{aligned}$$

$$\begin{aligned} 7. \quad (5x + 4)(5x - 4) &= 25x^2 - 20x + 20x - 16 \\ &= 25x^2 - 16 \end{aligned}$$