Distributing Factor

3.7 Multiplying Polynomials

Expand & Simplify

Rainbow

Skittles TASTE THE RAINBOW

$$2x\left(x^2 + x + 3 + xy + 17 + 4\right)$$

$$3n^4 (5m^3n - 10m^2n^2)$$

$$15m^3n^5 - 30m^2n^6$$

$$(x + 4)(x - 3)$$

FOIL
first outside inside last

$$x^2 - 3x + 4x - 12$$

$$x^2 + x - 12$$

$$(x + 4)(x - 3)$$

$$x^2 - 3x + 4x - 12$$

$$x^2 + x - 12$$

$$(2x + 7)(-3x + 5)$$

$$-6x^2 + 10x - 21x + 35$$

$$\boxed{-6x^2 - 11x + 35}$$

Ultimate Question

$$(2x - 2)(3x^2 - 4x + 1)$$

$$6x^3 - 8x^2 + 2x - 6x^2 + 8x - 2$$

$$\boxed{6x^3 - 14x^2 + 10x - 2}$$

Numbers, Relations & Functions 10

Name_____

Mutilpying Polynomials

Date_____

Find each product.

1) $5(6b + 3)$

2) $8(6r + 3)$

3) $2(8x + y)$

4) $5mn(3m + 2n)$

5) $7(x - 7y)$

6) $2mn(8m - 2n)$

7) $(4x - 2y)(6x + 6y)$

8) $(6x + 3y)(4x - 7y)$

9) $(2x + 5y)(7x - 8y)$

10) $(3x + 6y)(5x - 8y)$

11) $(5x - 4y)(5x^2 - 4xy + 6y^2)$

12) $(8x - 7y)(6x^2 + 8xy + 3y^2)$

13) $(6a^2 - 2a - 3)(8a + 2)$

14) $(2k^2 + 8k - 2)(7k + 4)$

15) $(7a^2 - 2ab + 2b^2)(a^2 - 2ab - 8b^2)$

16) $(x^2 - 4xy + 2y^2)(x^2 - 2xy - 7y^2)$

Answers to Mutilpying Polynomials

1) $30b + 15$

2) $48r + 24$

3) $16x + 2y$

4) $15m^2n + 10mn^2$

5) $7x - 49y$

6) $16m^2n - 4mn^2$

7) $24x^2 + 12xy - 12y^2$

8) $24x^2 - 30xy - 21y^2$

9) $14x^2 + 19xy - 40y^2$

10) $15x^2 + 6xy - 48y^2$

11) $25x^3 - 40x^2y + 46xy^2 - 24y^3$

12) $48x^3 + 22x^2y - 32xy^2 - 21y^3$

13) $48a^3 - 4a^2 - 28a - 6$

14) $14k^3 + 64k^2 + 18k - 8$

15) $7a^4 - 16a^3b - 50a^2b^2 + 12ab^3 - 16b^4$

16) $x^4 - 6x^3y + 3x^2y^2 + 24xy^3 - 14y^4$