

Name: Key

Date: \_\_\_\_\_

Period: \_\_\_\_\_

**5.3 Multiply Polynomials CYU** Use when you get it right all by yourself**S** Use when you did it all by yourself, but made a silly mistake**H** Use when you could do it alone with a little help from teacher or peer**G** Use when you completed the problem in a group**X** Use when a question was attempted but wrong (get help)**N** Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Multiplying Polynomials	1 - 5, 13, 17, 18, 21	6 - 10, 15, 16, 19, 20, 23 - 26	11, 12, 14, 22, 23
Writing polynomial expressions in standard form	1 - 5, 13, 17, 18, 21	6 - 10, 15, 16, 19, 20, 23 - 26	11, 12, 14, 22, 23
FOILing	13	15, 16	14
Punnett Squares		23 - 26	
Distribution	17, 18, 21	19, 20	22, 23

Multiply. Write your final answer in standard form. Show all work for full credit.

1.  $-4n^3 \cdot 7n^7$

$$-28n^{10}$$

2.  $9u^6(-3u^5)$

$$-27u^{11}$$

3.  $(-5.2x^4)(3x^4)$

$$-15.6x^8$$

4.  $(-\frac{3}{4}y^7)(\frac{1}{7}y^4)$

$$-\frac{3}{28}y^{11}$$

5.  $(x)(5x^4)(-6x^7)$

$$-30x^{12}$$

6.  $3x(2x + 5)$

$$6x^2 + 15x$$

7.  $2x(6x + 3)$

$$12x^2 + 6x$$

8.  $-3a(2a + 7)$

$$-6a^2 - 21a$$

9.  $4x(5x^2 - 6x - 10)$

$$20x^3 - 24x^2 - 40x$$

10.  $-4b^2(3b^3 - 12b^2 - 6)$

$$-12b^5 + 48b^4 + 24b^2$$

11.  $-x(6y^3 - 5xy^3 + x^2y - 5x^3)$

$$-6xy^3 + 5x^2y^2 - x^3y + 5x^4$$

12.  $\frac{1}{3}y^2(9y^2 - 6y + 1)$

$$3y^4 - 2y^3 + \frac{1}{3}y^2$$

Multiply using the FOILing Method. Write your answer in standard form. Show all work to earn full credit.

13.  $(x + 4)(x + 3)$

$$x^2 + 7x + 12$$

14.  $(x + \frac{3}{5})(x - \frac{2}{5})$

$$x^2 + \frac{1}{5}x - \frac{6}{25}$$

15.  $(5x^2 + 2)(6x^2 + 2)$

$$30x^4 + 22x^2 + 4$$

16.  $(3x^2 + 1)^2$

$$9x^4 + 6x^2 + 1$$

Multiply using distribution. Write your final answer in standard form. Show all work to earn full credit.

17.  $(x-2)(x^2-3x+7)$

18.  $(x+3)(x^2+5x-8)$

19.  $(x+5)(x^3-3x+4)$

$x^3 - 5x^2 + 13x - 14$

$x^3 + 8x^2 + 7x - 24$

$x^4 + 5x^3 - 3x^2 - 11x + 20$

20.  $(a+2)(a^3-3a^2+7)$

21.  $(2a-3)(5a^2-6a+4)$

22.  $(3+b)(2-5b-3b^2)$

$a^4 - a^3 - 6a^2 + 7a + 14$

$10a^3 - 27a^2 + 26a - 12$

$-3b^3 - 14b^2 - 13b + 6$

Multiply using Punnett Squares. Write your final answer in standard form. Show all work to earn full credit.

23.  $(x^2+5x-7)(2x^2-7x-9)$

24.  $(3x^2-x+2)(x^2+2x+1)$

$2x^4 + 3x^3 - 58x^2 + 4x + 63$

$3x^4 + 5x^3 + 3x^2 + 3x + 2$

25.  $(3x^2+2x-4)(2x^2-4x+3)$

26.  $(a^2+3a-2)(2a^2-5a-1)$

$6x^4 - 8x^3 - 7x^2 + 22x - 12$

$2a^4 + a^3 - 20a^2 + 7a + 2$

**CYU Reflection:** How far can you go: basic, intermediate, or advanced?

**Rate your mastery level!**

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

