$\qquad$ Date: $\qquad$ Period: $\qquad$

### 5.3 Multiply Polynomials CYU

$\square$ Use when you get it right all by yourself
$\boldsymbol{S}$ Use when you did it all by yourself, but made a silly mistake
HUse when you could do it alone with a little help from teacher or peer
$\boldsymbol{G}$ 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 | $1-5,13,17$, | $6-10,15,16,19$, | $11,12,14,22$, |
|  | 18,21 | $20,23-26$ | 23 |
| Writing polynomial expressions in standard form | $1-5,13,17$, | $6-10,15,16,19$, | $11,12,14,22$, |
|  | 18,21 | $20,23-26$ | 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. $-4 n^{3} \cdot 7 n^{7}$
2. $9 u^{6}\left(-3 u^{5}\right)$
3. $\left(-5.2 x^{4}\right)\left(3 x^{4}\right)$
4. $\left(-\frac{3}{4} y^{7}\right)\left(\frac{1}{7} y^{4}\right)$
5. $(x)\left(5 x^{4}\right)\left(-6 x^{7}\right)$
6. $3 x(2 x+5)$
7. $2 x(6 x+3)$
8. $-3 a(2 a+7)$
9. $4 x\left(5 x^{2}-6 x-10\right)$
10. $-4 b^{2}\left(3 b^{3}-12 b^{2}-6\right)$
11. $-x\left(6 y^{3}-5 x y^{3}+x^{2} y-5 x^{3}\right)$
12. $\frac{1}{3} y^{2}\left(9 y^{2}-6 y+1\right)$

Multiply using the FOILing Method. Write your answer in standard form. Show all work to earn full credit.
13. $(x+4)(x+3)$
14. $\left(x+\frac{3}{5}\right)\left(x-\frac{2}{5}\right)$
15. $\left(5 x^{2}+2\right)\left(6 x^{2}+2\right)$
16. $\left(3 x^{2}+1\right)^{2}$

Multiply using distribution. Write your final answer in standard form. Show all work to earn full credit.
17. $(x-2)\left(x^{2}-3 x+7\right)$
18. $(x+3)\left(x^{2}+5 x-8\right)$
19. $(x+5)\left(x^{3}-3 x+4\right)$
20. $(a+2)\left(a^{3}-3 a^{2}+7\right)$
21. $(2 a-3)\left(5 a^{2}-6 a+4\right)$
22. $(3+b)\left(2-5 b-3 b^{2}\right)$

Multiply using Punnett Squares. Write your final answer in standard form. Show all work to earn full credit.
23. $\left(x^{2}+5 x-7\right)\left(2 x^{2}-7 x-9\right)$
24. $\left(3 x^{2}-x+2\right)\left(x^{2}+2 x+1\right)$
25. $\left(3 x^{2}+2 x-4\right)\left(2 x^{2}-4 x+3\right)$
26. $\left(a^{2}+3 a-2\right)\left(2 a^{2}-5 a-1\right)$

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 yours elf.


