Name: _____ Date: _____ Period: _____

5.1 Exponents DAY ONE 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
Labeling bases and exponents	1 - 4		
Evaluating expressions with exponents	5 - 9		
Evaluating expressions given values	10 - 13		
Using product rule	14 - 19		
Using the power rule	20 – 24		
Area	25 – 28		

1 – 4: For each of the following expressions, state the exponent shown and its corresponding base.

1. 3^2 2. -4^2 3. $5x^2$ 4. $(6x)^2$

5 – 9: Evaluate each expression. Show work to earn full credit.

5. 7^2 6. $(-5)^1$ 7. -2^4 8. $(-2)^4$ 9. $\left(\frac{2}{3}\right)^4$

10 – 13: Evaluate each expression for the replacement values given. Show work to earn full credit.

10. x^2; x = - 2 11. $5x^3$; x = 3 12. $2xy^2$; x = 3 & y = 5 13. $\frac{2z^4}{5}$; z = - 2

14 – 19: Using the product rule to simplify each expression. Write the results using exponents. Show work to earn full credit.

14. $x^2 \cdot x^5$ 15. $(-3)^3 \cdot (-3)^9$ 16. $(5y^4)(3y)$

17. $(x^9y)(x^{10}y^5)$ 18. $(-8mn^6)(9m^2n^2)$ 19. $(4z^{10})(-6z^7)(z^3)$

20 – 24: Use the power rule to simplify each expression. Write the results using exponents. Show work to earn full credit.

20. $(x^9)^4$

21. $(pq)^8$

22. $(2a^5)^3$

23. $(x^2y^3)^5$

24. $(-7a^2b^5c)^2$

24. $(-3x^7yz^2)^3$

25. Draw a rectangle that has width $4x^2$ feet and length $5x^3$ feet. Find its area as an expression in x.
(A = length · width)

26. Draw a parallelogram that has base length $9y^7$ meters and height $2y^{10}$ meters. Find its area as an expression in y.
(A = base · height)

27. Draw a square that has sides of length $8z^5$ decimeters. Find its area. (A = side squared)

28. Draw a circle with a radius 5y centimeters, find its area. Do not approximate pi. ($A = \pi r^2$)

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 yours elf.