Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table# \_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_

**10.2B NOTES – Product of Powers Property**

Objective: CCSS: 8.EE.1 (Apply the properties of integer exponents to generate equivalent numerical expressions)

HW: (10.2B) P. 420 #3 – 13 odd, 17 – 22 all. Solutions on p. A39. Copy down the problem, show work, check odd answers

**Fill in the blank for the “Study Tip” on p. 418.**

**Then do On Your Own #1 – 9. Remember to show your work.**

|  |
| --- |
| STUDY TIP: When a number is written without an exponent, its exponent is \_\_\_\_\_\_ |

READ EXAMPLE 1 (p. 418) – For OYO #1 – 3: Simplify the expression.

|  |  |  |
| --- | --- | --- |
| 1. $6^{2}∙6^{4}$
 | 1. $\left(-\frac{1}{2}\right)^{3}∙\left(-\frac{1}{2}\right)^{6}$
 | 1. $z∙z^{12}$
 |

READ EXAMPLE 2 (p. 418) – For OYO #4 – 6: Simplify the expression.

|  |  |  |
| --- | --- | --- |
| 1. $(4^{4})^{3}$
 | 1. $(y^{2})^{4}$
 | 1. $(\left(-4^{3}\right))^{2}$
 |

READ EXAMPLE 3 (p. 419) – For OYO #7 – 9: Simplify the expression.

|  |  |  |
| --- | --- | --- |
| 1. $(5y)^{4}$
 | 1. $(ab)^{5}$
 | 1. $(0.5mn)^{2}$
 |

**EXTENDED LEARNING**

Simplify the expression

|  |  |  |
| --- | --- | --- |
| 1. $\left(\frac{1}{2}x\right)^{4}$
 | 1. $\left(-\frac{2}{3}m\right)^{3}$
 | 1. $(2^{3}n^{2}m)^{4}$
 |

**BACK 🡪**

**REVIEW**

Determine if the two expressions are equivalent. Show your work AND explain how you know.

|  |
| --- |
| 1. Is (-8)3 equivalent to -83?
 |
| 1. Is (-8)2 equivalent to -82?
 |