

Name: _____

H.W. # 44
Power to Power Rule

(1–4) Write an equivalent expression for each of the following.

1. $(5^4)^2 =$ _____

2. $(y^6)^5 =$ _____

3. $\left(\frac{1}{2}\right)^5 =$ _____

4. $(6^{-2})^{-7} =$ _____

(5–6) Fill in each box with the missing number which will make each statement true.

5. $(g^{\square})^5 = g^{10}$

6. $(w^{-3})^{\square} = w^{-21}$

(7–10) Write an equivalent expression for each of the following. Evaluate number bases completely.

7. $(2x^6)^5 =$ _____

8. $(-5y)^3 =$ _____

9. $(cd^8)^4 =$ _____

10. $(8a^3b^2c)^2 =$ _____

11. Jack wrote $(4^5)^2 = 4^7$ Explain his error.

Write the correct solution: _____

12. Evaluate completely: No calculator. Show all work. Remember to use exponent rules.

$$2^5 \div (6 - 4)^3 - 1^{17} + (-2)^3 + (4^2)^0$$