Name _____ Date Answer Key

Properties of Exponents: True or False

Determine if each equation is true or false. Circle your answers.

1. $3^4 \cdot 3^3 = 3^7$

True False

2. $(8^3)^3 = 8^9$

True False

3. $\frac{4^8}{4^4} = 4^2$

$\frac{4^8}{4^4} = 4^4$

True False

4. $\frac{9^7}{9^7} = 9^1$

$\frac{9^7}{9^7} = 9^0$

True False

5. $5^3 \cdot 5^2 = 5^6$

$5^3 \cdot 5^2 = 5^5$

True False

6. $1 = 2^0$

True False

7. $(2^4)^5 = 2^9$

$(2^4)^5 = 2^{20}$

True False

8. $5^{-3} = \frac{1}{5^3}$

True False

9. $9^6 \cdot 9^{-5} = 9^1$

True False

10. $\frac{6^{12}}{6^{12}} = 6^0$

True False

11. $(7^3)^2 \cdot 7^{10} = 7^{15}$

$(7^3)^2 \cdot 7^{10} = 7^{16}$

True False

12. $\frac{1}{2^5 \cdot 2^9} = 2^{-14}$

True False

13. $\frac{(4^6)^3}{4^9} = 4^2$

$\frac{(4^6)^3}{4^9} = 4^9$

True False

14. $\frac{12^5}{12^7} = \frac{1}{12^2}$

True False

15. $\frac{4^8 \cdot 4^{10}}{4^2} = 4^{40}$

$\frac{4^8 \cdot 4^{10}}{4^2} = 4^{16}$

True False

Challenge!

Correct all of the false equations. Change one side of each false equation to make it true.

Student answers will vary.