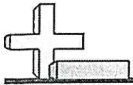


NTI Day 1, Grade 8 Math



Rewriting Using the Laws of Exponents

Name: _____

Use the law of exponents to rewrite each problem.

1) $(\frac{1}{6})^5 = \frac{1^5}{6^5}$

2) $5^1 =$ _____

3) $(4 \times 2)^9 =$ _____

4) $(5 \times 3)^7 =$ _____

5) $(4^2)^8 =$ _____

6) $2^0 =$ _____

7) $(\frac{1}{5})^8 =$ _____

8) $3^0 =$ _____

9) $3^{-7} =$ _____

10) $(5^9)^2 =$ _____

11) $6^1 =$ _____

12) $3^{-8} =$ _____

13) $4^8 \times 4^{-4} =$ _____

14) $3^8 \times 3^{-6} =$ _____

15) $2^{-6} =$ _____

16) $4^1 =$ _____

17) $4^9 \times 4^5 =$ _____

18) $(\frac{1}{8})^3 =$ _____

19) $5^2 \times 5^8 =$ _____

20) $2^0 =$ _____

Answers

1. $\frac{1}{6^5}$

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

Exponent Rules

Assume that a and b are nonzero real numbers, and m and n are any integers.

1) Zero Property of Exponent

$$b^0 = 1$$

2) Negative Property of Exponent

$$b^{-n} = \frac{1}{b^n} \quad \text{OR} \quad \frac{1}{b^{-n}} = b^n$$

3) Product Property of Exponent

$$(b^m)(b^n) = b^{m+n}$$

4) Quotient Property of Exponent

$$\frac{b^m}{b^n} = b^{m-n}$$

5) Power of a Power Property of Exponent

$$(b^m)^n = b^{mn}$$

6) Power of a Product Property of Exponent

$$(ab)^m = a^m b^m$$

7) Power of a Quotient Property of Exponent

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

