

Solve. Remember the basic rules:1) When any exponent is raised to the zero power, the answer is **zero OR one**.2) When any exponent is raised to the first power, the answer is **zero OR one**.

3) If there is a negative property, we _____ and _____.

Simplify and write answers as EXPONENTS.

4) 2^0

5) 0^3

6) 4^{-3}

7) $(-3)^{-1}$

8) $\frac{3^{-3}}{3^2}$

9) $2^{-2} \cdot 2^{-3}$

10) $(2^{-1})^5$

11) $\frac{1}{3^{-3}}$

Simplify the expression.

12) x^{-4}

13) $(4g)^{-2}$

14) $5m^{-3}n^{-4}$

15) $(-15fg^2)^0$

16) $\frac{x^{-5}}{y^2}$

17) $\frac{1}{15x^{10}y^{-8}}$

18) $\frac{1}{(-2z)^{-2}}$

19) $\frac{(3x)^{-3}y^0}{-x^2y^{-6}}$

True or False. Determine whether the statement is true for all non-zero values of a and b .

20) $\frac{a^{-3}}{a^{-4}} = \frac{1}{a}$

21) $\frac{a^{-1}}{b^{-1}} = \frac{b}{a}$

_____ 22) Which expression simplifies to $2x^4$?

[A] $2x^{-4}$

[B] $\frac{32}{(2x)^{-4}}$

[C] $\frac{1}{2x^{-4}}$

[D] $\frac{8}{4x^{-4}}$