



#1-6, Apply the laws of exponents - remember, only positive exponents allowed in final form.

1.  $v^{-7} = \frac{1}{v^7}$

2.  $(-4)^{-2} = \frac{1}{(-4)^2} = \frac{1}{16}$

3.  $15y^{-3} = \frac{15}{y^3}$

4.  $\frac{1}{2w^{-3}} = \frac{w^3}{2}$

5.  $L^2 O^{-3} V^{-2} E^{10} = \frac{L^2 E^{10}}{O^3 V^2}$

$\frac{E^{10} L^2}{O^3 V^2}$

6.  $4A^{-3} L^5 G^{-1} = \frac{4L^5}{A^3 G^1}$

7.  $5^{-2} = \frac{1}{5^2} = \frac{1}{25}$

8.  $\frac{2x^5 y^{-1}}{7x^{-4} y^3} = \frac{2x^9}{7y^4}$

#9-24, Combine all laws of exponent to simplify each expression.

9.  $\frac{2}{3} y^8 e^{-3} s^{-2} = \frac{2y^8}{3e^3 s^2}$

10.  $-5m^{-3} = \frac{-5}{m^3}$

11.  $(ab)^{-3}(ab)^2 = \frac{1}{ab}$

12.  $(5w^{-3}x^5)^{-2} = \frac{w^6 x^{-10}}{25x^{10}}$

13.  $(x^0)(x^0)(x^0)^3 = x^5$

14.  $(2g^{-3}h^5)^4 = \frac{16h^{20}}{g^{12}}$

15.  $(-2math)^{-1} = \frac{1}{-2math}$

16.  $\left(\frac{2x^{-9}}{3y}\right)^{-1} = \frac{2^{-1}x^9}{3^{-1}y^{-1}} = \frac{3x^9y}{2}$

17.  $(x^2y^2)^2(x^2y)^{-2} = y^2$

18.  $((m^{-3})^{-2})^4 = \frac{1}{m^{24}}$

19.  $(10h^3ug^4)(-3h^{-2}u^{-3}g) = \frac{-30hg^5}{u^2}$

20.  $(-4x^3)^2(5x^5) = 80x^{11}$

21.  $(4x^{-2}y)(3x^5y^{-3}z)^2 = 36x^8y^3z^2$

22.  $(a^{-2}b)^{-1}(3a^2b^{-10}c^{-3})^4 = \frac{81a^{10}}{b^4c^{12}}$

23.  $n^{10} \cdot o^{-4} \cdot n^{-10} \cdot o^{-6} = \frac{1}{o^{10}}$

24.  $\left(\frac{1}{2}v^3\right)\left(\frac{2}{5}v^4\right)^{-1} = \frac{5v^4}{4}$

