

1. Evaluate each expression for  $A = -8$      $B = 4$      $C = 6$   
Give fractional answers in reduced form (NO DECIMALS)

a)  $B^{-2} \cdot C^3$

b)  $2A^2B$

c)  $\frac{81B^2C^{-3}}{A^0}$

Simplify each. Make sure answers don't have any exponents that are either negative or zero. Give fractional answers in reduced form (NO DECIMALS)

2.  $5A^{-3}$

3.  $-7k^6m^4km^{-2}$

4.  $(10A^6)^2$

5.  $(8.75d^3)^1$

6.  $E^4 \cdot F^{-3} \cdot G^{-8} \cdot E^{-4} \cdot G^5 \cdot F^9$

7.  $\frac{-2}{w^{-7}}$

8.  $(2a^4b^{-5})^3$

9.  $(5B^{-7}C^4)^0$

10.  $(M^{-2}K^4R)^{-4}$

11.  $\left(\frac{-9R^5}{c^{-7}}\right)^{-1}$

12.  $\left(\frac{m^4}{4h^3}\right)^2$

13.  $(5H^3K^{-9})^2(2H^5K^3)^4$

14.  $\frac{8^{-2}e^{-8}g^5h^0}{w^7x^{-1}}$

15.  $\left(\frac{5N^6Q^{-4}}{w^7}\right)^{-2}$

16.  $(15r^8w^7j^{12})^0(5r^{-3}w^4r^{-2}w)^2$

17.  $\frac{4c^{12}d^5}{10c^3d^{15}}$

18.  $\frac{24m^{-8}n^6}{18m^{-10}n^{-4}}$

19.  $\left(\frac{2x^6y^{-2}}{6x^2}\right)^3$

20.  $\left(\frac{a^3b^4}{3a^7b^{-2}}\right)^{-2}$

21. Write each in scientific notation.

a) 45,6000

b) 0.000000002178

22. Write each in standard notation.

a)  $8.617 \times 10^{-5}$

b)  $5.337 \times 10^5$

23. Find the value of each. Give your answer in both scientific notation and standard notation.

a)  $(2.75 \times 10^{-11})(3.2 \times 10^3)$

b)  $\frac{8.4 \times 10^{11}}{2.4 \times 10^5}$

1. a)  $\frac{27}{2}$       b) 512      c) 6

2.  $\frac{5}{A^3}$       3.  $-7k^7m^2$       4.  $100A^{12}$       5.  $8.75d^3$

6.  $\frac{F^6}{G^3}$       7.  $-2w^7$       8.  $\frac{8a^{12}}{b^{15}}$

9. 1      10.  $\frac{M^8}{K^{16}R^4}$       11.  $\frac{1}{-9c^7R^5}$

12.  $\frac{m^8}{16h^6}$       13.  $\frac{400H^{26}}{K^6}$       14.  $\frac{g^5x}{64e^8w^7}$

15.  $\frac{Q^8w^{14}}{25N^{12}}$       16.  $\frac{25w^{10}}{r^{10}}$

17.  $\frac{2c^9}{5a^{10}}$       18.  $\frac{4m^2n^{10}}{3}$       19.  $\frac{x^{12}}{27y^6}$       20.  $\frac{9a^8}{b^{12}}$

21. a)  $4.56 \times 10^5$       b)  $2.178 \times 10^{-9}$

22. a) 0.00008617      b) 533,700

23. a)  $8.8 \times 10^{-8} = 0.000000088$       b)  $3.5 \times 10^6 = 3,500,000$