Name: _____ Date: _____

Calculator Exercises Scientific Notation/ Answer Key

Use the exponent function on your calculator (y^x, ^, or EXP) to compute the following.

1. $(6.02 \times 10^{23})(8.65 \times 10^{4})$

Ans. 5.21×10^{28}

2. $(6.02 \times 10^{23})(9.63 \times 10^{-2})$

Ans. 5.80×10^{22}

3. $\dfrac{5.6 \times 10^{-18}}{8.9 \times 10^{8}}$

Ans. 6.3×10^{-27}

4. $(-4.12 \times 10^{-4})(7.33 \times 10^{12})$

Ans. -3.02×10^{9}

5. $\dfrac{1.0 \times 10^{-14}}{4.2 \times 10^{-6}}$

Ans. 2.4×10^{-9}

6. $\dfrac{7.85 \times 10^{26}}{6.02 \times 10^{23}}$

Ans. 1.30×10^{3}

7. $(-3.2 \times 10^{-7})(-8.6 \times 10^{-9})$

Ans. 2.8×10^{-15}

8. $\dfrac{(5.4 \times 10^{4})(2.2 \times 10^{7})}{4.5 \times 10^{5}}$

Ans. 2.6×10^{6}

9. $\dfrac{(6.02 \times 10^{23})(-1.42 \times 10^{-15})}{6.54 \times 10^{-6}}$

Ans. -1.31×10^{14}

10. $\dfrac{(6.02 \times 10^{23})(-5.11 \times 10^{-27})}{-8.23 \times 10^{5}}$

Ans. 3.74×10^{-9}

11. $\dfrac{(3.1 \times 10^{14})(4.4 \times 10^{-12})}{-6.6 \times 10^{-14}}$

Ans. -2.1×10^{16}

12. $\dfrac{(8.2 \times 10^{-3})(-7.9 \times 10^{7})}{7.3 \times 10^{-16}}$

Ans. -8.9×10^{20}

13. $\dfrac{(-1.6 \times 10^{5})(-2.4 \times 10^{15})}{8.9 \times 10^{3}}$

Ans. 4.3×10^{16}

14. $(7.0 \times 10^{28})(-3.2 \times 10^{-20})(-6.4 \times 10^{35})$

Ans. 1.4×10^{45}

Solve each problem. Report each answer with correct units.

1. $(2.500 \times 10^{4}\ \text{m})(5.000 \times 10^{3}\ \text{m}) =$

Ans. $1.250 \times 10^{8}\ m^2$

2. $\dfrac{(5.20 \times 10^{2}\ \text{g} + 3.16 \times 10^{2}\ \text{g})}{(88.00\ \text{mL} - 17.00\ \text{mL})} =$

Ans. $1.18 \times 10^{1}\ g/mL$

3. $\dfrac{(4.00 \times 10^{20}\ \text{atoms} + 9.71 \times 10^{20}\ \text{atoms})}{3 \times 10^{-2}\ \text{cm}^3} =$

Ans. $4.57 \times 10^{22}\ atoms/cm^3$
or $5 \times 10^{22}\ atoms/cm^3$ with sig. fig.

4. $\dfrac{2.000 \times 10^{-6}\ \text{mg}}{0.002386\ \text{hr}} =$

Ans. $8.382 \times 10^{-4}\ mg/hr$

5. $\dfrac{1.90 \times 10^{4}\ \text{J}}{(2.0 \times 10^{1}\ \text{g})(5.8 \times 10^{0}\ ^\circ\text{C})} =$

Ans. $1.6 \times 10^{2}\ J/g \cdot °C$

6. $\dfrac{5.25 \times 10^{-8}\ \text{mol}}{1.68 \times 10^{-6}\ \text{dm}^3} =$

Ans. $3.13 \times 10^{-2}\ mol/dm^3$

7. $(5.0 \times 10^{5}\ \text{m})(2.0 \times 10^{3}\ \text{m}) =$

Ans. $1.0 \times 10^{9}\ m^2$

8. $5.8 \times 10^{-2}\ \text{m} + 4.2 \times 10^{-3}\ \text{m} =$

Ans. $6.2 \times 10^{-2}\ m$

9. $(5.608 \times 10^{7}\ \text{cm})(5.199 \times 10^{4}\ \text{cm})(4.831 \times 10^{8}\ \text{cm}) =$

Ans. $1.409 \times 10^{21}\ cm^3$

10. $\dfrac{(6.023 \times 10^{23}\ \text{atoms})(3\ \text{mol})}{(1\ \text{mol})} =$

Ans. $1.807 \times 10^{24}\ atoms$