

2-6-4 Scientific Notation page 2

a) $(3 \times 10^5)(2.3 \times 10^9) = 6.9 \times 10^{14}$ $(2.1 \times 10^5)(1.3 \times 10^9)(2 \times 10^{10}) = 5.46 \times 10^{24}$

$(7.2 \times 10^5)(1 \times 10^9) = 7.2 \times 10^{14}$

b) $(1.2 \times 10^{15})(5.3 \times 10^{15}) = (1.2)(5.3) \times 10^{15+15} = 6.36 \times 10^{30}$

$(3.4 \times 10^{51})(2.3 \times 10^{-23}) = 7.82 \times 10^{28}$ $3 \times 10^5(2.3)10^{-9} = 6.9 \times 10^{-4}$

c) $(-2 \times 10^{-9})(3 \times 10^9) = -6$ $(-2.5 \times 10^{-5})(3 \times 10^{-12}) = -7.5 \times 10^{-17}$

d) $(-5.4 \times 10^7)(3.1 \times 10^8) = -16.74 \times 10^1 = -1.674 \times 10^2$

$(3.25 \times 10^{-9})(5.3 \times 10^{-12}) = 17.225 \times 10^{-21} = 1.7225 \times 10^{-20}$

$(-2 \times 10^{12})(-7.3 \times 10^{23}) = 14.6 \times 10^{35} = 1.46 \times 10^{36}$

e) $17.536 \times 10^{25} = 1.7536 \times 10^{24}$ $30.96 \times 10^{56} = 3.096 \times 10^{57}$

$20.75 \times 10^{-12} = 2.075 \times 10^{-11}$

f) $6.23 \times 10^9 \cdot 5 \times 10^3 = 31.15 \times 10^{12} = 3.115 \times 10^{13} \text{ g.}$

g) $\frac{1.5 \times 10^{21}}{2.3 \times 10^5} = 0.652 \times 10^{21-5} = 6.52 \times 10^{15}$

$2.17 \times 10^{-71-52} = 2.17 \times 10^{-123}$

$6.92 \times 10^{-7-(-5)} = 6.92 \times 10^{-2}$

b) $1 \times 10^{-3-(-8)} = 1 \times 10^5$ $0.29 \times 10^{3-8} = 2.9 \times 10^{-6}$

$(6.8 \div 3.4) = 2$ $2 \times 10^{-3-(-8)} = 2 \times 10^5 = 2 \times 10^5$

c) $3.4 \times 10^{-5} \div 80 = 0.0425 \times 10^{-5} = 4.25 \times 10^{-7}$