Honors Physics Mr. McMullen

Name _____ Date _____ Period_____

EXAMPLE

Adding and Subtracting with Exponents

$3.06 \times 10^{-4} + 42.3 \times 10^{-5}$

Change 42.3×10^{-5} to 4.23×10^{-4}

$3.06 \times 10^{-4} + 4.23 \times 10^{-4} = 7.29 \times 10^{-4}$

5. Solve the following addition and subtraction problems. Make sure you convert all numbers to the same power of ten.

a. $4.5 \times 10^{7} + 6.45 \times 10^{7}$

b. $5.4 \times 10^{7} + 7.8 \times 10^{6}$

c. $7.8 \times 10^{-6} - 8.4 \times 10^{-7}$

d. $2.3 \times 10^{4} - 4.2 \times 10^{3}$

e. $6.7 \times 10^{-8} + 8.2 \times 10^{-7}$

EXAMPLE

Multiplying and Dividing with Exponents

$$\frac{(3.2 \times 10^{2})(2.0 \times 10^{4})}{6.4 \times 10^{3}} = \frac{6.4 \times 10^{(2+4)}}{6.4 \times 10^{3}} = 1.0 \times 10^{(6-3)} = 1.0 \times 10^{3}$$

6. Solve the following multiplication and division problems.

a. $(4.5 \times 10^{2})(2.3 \times 10^{-4}) =$ _____

b. $(2.0 \times 10^{6})(3.5 \times 10^{-9}) =$ _____

c. $(1.2 \times 10^{7})(1.2 \times 10^{4}) =$ _____

d. $\dfrac{6.0 \times 10^{7}}{1.5 \times 10^{2}} =$ _____

e. $\dfrac{7.2 \times 10^{-4}}{1.2 \times 10^{8}} =$ _____

f. $\dfrac{(5.5 \times 10^{-5})(6.0 \times 10^{4})}{(2.1 \times 10^{4})} =$ _____

g. $\dfrac{(5.5 \times 10^{-5})(6.0 \times 10^{4})}{(3.0 \times 10^{-6})} =$ _____