HOMEWORK #2

Name: _____

Date: _____ Period: _____

Scientific Notation, SI Prefixes, and Fractions

SCIENTIFIC NOTATION

1. Rewrite each number using scientific notation.

5,000 = _____ 12,000 = _____ 0.005 = _____

360 = _____ 0.0042 = _____ 250,000 = _____

0.03 = _____ 0.0018 = _____ 0.0007 = _____

SI PREFIXES

10^{18}	10^{15}	10^{12}	10^{9}	10^{6}	10^{3}	10^{-3}	10^{-6}	10^{-9}	10^{-12}	10^{-15}	10^{-18}
exa	peta	tera	giga	mega	kilo	milli	micro	nano	pico	femto	atto
E	P	T	G	M	k	m	μ	n	p	f	a

2. Write the correct power of ten in the box, based on the prefix.

(a) $5.4\ \text{km} = 5.4 \times 10^{\square}\ \text{m}$ (b) $9.1\ \text{ms} = 9.1 \times 10^{\square}\ \text{s}$ (c) $5\ \mu\text{g} = 5 \times 10^{\square}\ \text{g}$

(d) $1.5\ \text{MJ} = 1.5 \times 10^{\square}\ \text{J}$ (e) $6.2\ \text{nm} = 6.2 \times 10^{\square}\ \text{m}$ (f) $7.5\ \text{GN} = 7.5 \times 10^{\square}\ \text{N}$

3. Rewrite each number in scientific notation.

(Ex) 5.4 **n**m $5.4 \times \mathbf{10^{-9}}\text{m}$

(a) 7.5 Ps (b) 8.3 mg (c) 2 ns

(d) 53 Tm (e) 21 ks (f) 0.35 Mg (g) 0. 041 fJ

MIXED PRACTICE

4. Write each measurement in **scientific notation**. This part will mess you up if you are not careful! Just double check to make sure the number you write is actually in proper scientific notation.

(a) 3,600 m = _____ (b) 0.00028 s = _____

(c) 30×10^{6} J = _____ (d) 0.25×10^{-3} N = _____

(e) 7.2 km = _____ (f) 12 ms = _____

(g) 120 MJ = _____ (h) 0.5 nm = _____

UNIT FRACTIONS

$\frac{1}{2} = 0.50$ $\frac{1}{3} = 0.\overline{33}$ $\frac{1}{4} = 0.25$ $\frac{1}{5} = 0.20$ $\frac{1}{9} = 0.\overline{11}$ $\frac{1}{10} = 0.10$

INTRODUCTION TO CONVERTING FRACTIONS

5. Guided Practice. Fill in the boxes; use the example as a guide.

Ex.

Since $\frac{1}{5} =$ 0.20 and $\frac{2}{5} = \frac{1}{5} + \frac{1}{5} =$ 0.20 + 0.20 then $\frac{2}{5} =$ 0.40

(a)

Since $\frac{1}{3} =$ ☐ and $\frac{2}{3} = \frac{\square}{\square} + \frac{\square}{\square} =$ ☐ + ☐ then $\frac{2}{3} =$ ☐

(b)

Since $\frac{1}{9} =$ ☐ and $\frac{2}{9} = \frac{\square}{\square} + \frac{\square}{\square} =$ ☐ + ☐ then $\frac{2}{9} =$ ☐

(c)

Since $\frac{1}{4} =$ ☐ and $\frac{3}{4} = \frac{\square}{\square} + \frac{\square}{\square} + \frac{\square}{\square} =$ ☐ + ☐ + ☐ then $\frac{3}{4} =$ ☐

6. Reduce the fraction, then convert it into a decimal rounded off to two decimal places.

Ex. $\frac{15 \div 3}{6 \div 3} = \frac{5}{2} = 2.50$

(a) $\frac{6}{15} =$

(b) $\frac{10}{15} =$

(c) $\frac{15}{10} =$

(d) $\frac{6}{27} =$

(e) $\frac{12}{16} =$

MIXED PRACTICE

7. Rewrite each fraction as a decimal rounded off to two decimal places.

$\frac{1}{5} =$ $\frac{1}{2} =$ $\frac{1}{4} =$ $\frac{1}{9} =$ $\frac{1}{3} =$

$\frac{8}{9} =$ $\frac{3}{4} =$ $\frac{4}{5} =$ $\frac{9}{10} =$ $\frac{2}{3} =$

$\frac{3}{2} =$ $\frac{10}{9} =$ $\frac{5}{4} =$ $\frac{6}{5} =$ $\frac{4}{3} =$

$\frac{9}{5} =$ $\frac{8}{3} =$ $\frac{13}{4} =$ $\frac{5}{2} =$ $\frac{15}{9} =$

$\frac{5}{15} =$ $\frac{9}{15} =$ $\frac{28}{40} =$ $\frac{6}{24} =$ $\frac{21}{27} =$