Worksheet Scientific Notation/Significant Figures

#1

1. Convert each of the following into scientific notation.

a) 3427	b) 0.00456	c) 123,453
d) 172	e) 0.000984	f) 0.502
~~g) 3100.0×10^{2}~~	~~h) 0.0114×10^{4}~~	i) 107.2
j) 0.0000455	k) 2205.2	~~l) 30.0×10^{-2}~~
~~m) 0.982×10^{-3}~~	n) 0.0473	o) 650.502
~~p) 3.03×10^{-1}~~	~~q) 20.4×10^{5}~~	r) 1.29
s) 0.00565	t) 1362205.2	~~u) 450.0×10^{3}~~
~~v) 1000×10^{-3}~~		

2. Determine the number of significant figures in each of the following:

a) 3427	b) 0.00456	c) 123,453
d) 172	e) 0.000984	f) 0.502
g) 3100.0×10^{2}	h) 0.0114×10^{4}	i) 107.2
j) 0.0000455	k) 2205.2	l) 30.0×10^{-2}
m) 0.982×10^{-3}	n) 0.0473	o) 650.502
p) 3.03×10^{-1}	q) 20.4×10^{5}	r) 1.29
s) 0.00565	t) 1362205.2	u) 450.0×10^{3}
v) 1000×10^{-3}	~~w) 546,000 ± 10~~	~~x) 546,000 ± 1000~~

3. Convert each into decimal form.

1.56×10^{4}	0.56×10^{-2}	3.69×10^{-2}	736.9×10^{5}
0.00259×10^{5}	0.000459×10^{-1}	13.69×10^{-2}	6.9×10^{4}
0.00259×10^{3}	0.0209×10^{-3}		

4. Calculate the following. Give the answer in correct scientific notation.

a) 4.53×10^{5}
$+ 2.2 \times 10^{6}$

b) 1913.0
$- \ 4.6 \times 10^{3}$

c) 2.34×10^{24}
$+ 1.92 \times 10^{23}$

d) 2.130×10^{3}
$- \ 6.6 \times 10^{2}$

e) 9.10×10^{3}
$+ 2.2 \times 10^{6}$

f) 1113.0
$- \ 14.6 \times 10^{2}$

g) 6.18×10^{-45}
$+ 4.72 \times 10^{-44}$

h) 4.25×10^{-3}
$- \ 1.6 \times 10^{-2}$

5. Calculate the following. Give the answer in correct scientific notation.

a) $3.95 \times 10^{2} / 1.5 \times 10^{6}$

b) $(3.5 \times 10^{2})(6.45 \times 10^{10})$

c) $4.44 \times 10^{7} / 2.25 \times 10^{5}$

d) $(4.50 \times 10^{-12})(3.67 \times 10^{-12})$

e) $1.05 \times 10^{-26} / 4.2 \times 10^{56}$

f) $(2.5 \times 10^{9})(6.45 \times 10^{4})$

g) $6.022 \times 10^{23} / 3.011 \times 10^{-56}$

h) $(6.88 \times 10^{2})(3.45 \times 10^{-10})$

Worksheet Scientific Notation/Significant Figures

#2

1. Convert each of the following into scientific notation.

727 _____

172000 _____

0.000984 _____

200.0×10^2 _____

0.014×10^2 _____

2560000000000000000000000000000000 _____
(use 4 sig. fig.)

2. Convert each into decimal form.

1.56×10^4 _____

3.6×10^{-2} _____

736.9×10^5 _____

0.0059×10^5 _____

0.00059×10^{-1} _____

3. Calculate the following. Give the answer in correct scientific notation.

a) 2.34×10^{65}
$+ 9.2 \times 10^{66}$

b) 313.0
$- 1.2 \times 10^3$

4. Calculate the following. Give the answer in correct scientific notation.

a) $8.95 \times 10^{76} / 1.25 \times 10^{56}$

b) $(4.5 \times 10^{29})(2.45 \times 10^{100})$

5. Give the number of significant figures in each of the following.

a) 1.05 g _____

b) 0.0003040 mm _____

~~**c) 29000 ± 10 ft -**~~ _____

d) 0.90×10^{45} L _____

e) The number of eggs (12) that make up a dozen _____

6. Determine the answer for each of the following. Be sure to use the correct number of significant figures.

a) 17.34
4.900
+ 23.1

b) 9.80
- 4.762

c) $3.9 \times 6.05 \times 420 =$

d) $14.1 / 5 =$

7. Round each of the following to 3 significant figures.

77.0653 _____

6,300,178.2 _____

0.00023350 _____

10.2030 _____

2.895×10^{21} _____

Worksheet Scientific Notation/Significant Figures

#3

1. Give the number of significant figures in each of the following.

a) 10.0005 g _____

b) 0.003423 mm _____

~~c) 2900 ± 100 ft _____~~

d) 8.9×10^5 L _____

e) The number of minutes (60) that make up an hour _____

2. Determine the answer for each of the following. Be sure to use the correct number of significant figures.

a)
$$\begin{array}{r} 27.34 \\ 6.90 \\ +\ 13.124 \end{array}$$

b)
$$\begin{array}{r} 2.8023 \\ -\ 4.762 \end{array}$$

c) 0.32 x 14.50 x 120 =

d) 24.1 / 0.005 =

3. Round each of the following to 3 significant figures.

707.5 _____

2,300.2 _____

0.0003350 _____

10.26730 _____

18.95×10^{21} _____

4. Convert each of the following into correct scientific notation.

1747 _____

0.00000984 _____

3200.0×10^2 _____

0.002014×10^2 _____

25600000000000000 _____ (use 4 sig. fig. for the last one only)

5. Calculate the following using the correct number of significant figures.

a)
$$\begin{array}{r} 2.34 \times 10^{47} \\ +\ 9.2 \times 10^{46} \end{array}$$

b)
$$\begin{array}{r} 9132.0 \\ -\ 1.6 \times 10^{3} \end{array}$$

6. Calculate the following using the correct number of significant figures.

a) $(1.54 \times 10^{58})(3.5 \times 10^{60})$

b) $(7.9 \times 10^{34}) / (8.32 \times 10^{23})$