

W-PS Physical Science

Significant Figures - Numbers we can vouch for -
numbers we have confidence in.

86 2 s.f.

806 3 s.f.

970 2 s.f.
 ↑

2003 4 s.f.
~~X~~

2000 1 s.f.

0.~~X~~~~X~~46 2 s.f.

3500. 4 s.f.
 ↑

0.000507 3 s.f.
 ↑↑

3.0020 5 s.f.
 ↑

4.00 3 s.f.

8.00502 6 s.f.

200.0 4 s.f.

Adding

$$14.09 \text{ in} + 823.1 \text{ in} + 5.937 \text{ in}$$

$$\begin{array}{r} 14.09 \\ 823.1 \\ + 5.937 \\ \hline 843.127 \end{array}$$

$$2.4700 + 45.67 + 1.555$$

$$49.70$$

$$\begin{array}{r} 2.4700 \\ 45.67 \\ + 1.555 \\ \hline 49.6950 \end{array}$$

$$88 - 34.27$$

$$54$$

$$\begin{array}{r} 88.00 \\ - 34.27 \\ \hline 53.73 \end{array}$$

$$303.28 + 454.118 + 3.7082$$

$$761.11$$

$$\begin{array}{r} 303.28 \\ 454.118 \\ + 3.7082 \\ \hline 761.1062 \end{array}$$

$$104.23 - 39.8$$

$$64.4$$

$$\begin{array}{r} 104.23 \\ - 39.8 \\ \hline 64.43 \end{array}$$

Multiplying

$$\underbrace{(0.36)}_{(2)} \underbrace{(0.005)}_{(1)} = \underbrace{0.0018}_{(1)} = \boxed{0.002} \quad \boxed{.002}$$

$$\underbrace{(806)}_{(3)} \underbrace{(0.012)}_{(2)} = \underbrace{9.672}_{(2)} = \boxed{9.7}$$

$$\underbrace{(5000)}_{(1)} \underbrace{(250)}_{(2)} = \underbrace{1,250,000}_{(1)} = \boxed{1,000,000}$$

$$\underbrace{(3.00)}_{(3)} \underbrace{(8.005)}_{(4)} = \underbrace{24.015}_{(3)} = \boxed{24.0}$$

300,000,000 $\frac{m}{s}$

3
 2
 1
 0 0 0 0 0 0 0 0
 8 7 6 5 4 3 2 1
 =

$$\underline{3.00} * 10^{\underline{8}}$$

4
 3
 2
 1
 0 0 0 0 0 0 0 0
 8 7 6 5 4 3 2 1

$$\boxed{4.23 * 10^8}$$

$$1.) \quad \overset{\downarrow}{3}2800. = \boxed{3.28 * 10^4}$$

$$2.) \quad \underset{\begin{matrix} 654321 \end{matrix}}{\overset{\downarrow}{4}005000.} = \boxed{4.005 * 10^6}$$

$$3.) \quad \overset{\downarrow}{8}0.65 = \boxed{8.065 * 10^1}$$

$$4.) \quad \underset{7}{\overset{\downarrow}{6}10000000.} = \boxed{6.1 * 10^7}$$

$$1.) \quad \underset{2}{\overset{\downarrow}{8}.21} * 10^{(9)} = \overset{1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7}{\begin{matrix} \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \\ 8.2 \ 1 \ 0 \ 0 \ 0 \ 0 \ 0 \end{matrix}} = \boxed{8210000000}$$

$9-2 = 7$

$$2.) \quad \underset{3}{\overset{\downarrow}{7}.003} * 10^{(4)} = \overset{\downarrow}{7.0030} = \boxed{70030}$$

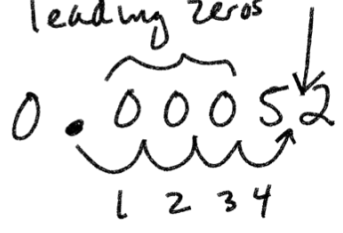
$4-3 = 1$

$$3.) \quad \underset{2}{\overset{\downarrow}{9}.11} * 10^{(12)} = \overset{\downarrow}{9.110000000000} = \boxed{9110000000000}$$

$12-2 = 10$

$$4.) \quad 5.023 * 10^2 = \overset{\downarrow}{5.023} = \boxed{502.3}$$

3 leading zeros



$$5.2 * 10^{-4}$$

1.) = $8 * 10^{-6}$

2.) = $7.12 * 10^{-2}$

3.) = $5.048 * 10^{-5}$

4.) = $9.06 * 10^{-3}$

Leading zeros $7 - 1 = 6$

1.) $7.08 * 10^{-7}$

$$4 - 1 = 3$$

2.) $3.2 * 10^{-4}$

3.) $8.93 * 10^{-10}$

4.) $2.008 * 10^{-5}$

$$\underline{100 \text{ years}} * \frac{365 \text{ days}}{1 \text{ yr}} * \frac{24 \text{ hr}}{1 \text{ day}} * \frac{60 \text{ min}}{1 \text{ hr}} * \frac{60 \text{ s}}{1 \text{ min}}$$

= 1

3,153,600,000

$3.1536 * 10^9$ seconds

Quiz 3 due tonight!
 Quiz 4 due Oct 14th
 HW Supplemental on sci notation
 online homework (Fri)
 Quiz 5 (Fri)
 due Oct 21st