

## Significant Figures Worksheet

# Significant Figures

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1. Indicate how many significant figures there are in each of the following measured values.

246.32	_____	1.008	_____	700000	_____
107.854	_____	0.00340	_____	350.670	_____
100.3	_____	14.600	_____	1.0000	_____
0.678	_____	0.0001	_____	320001	_____

2. Calculate the answers to the appropriate number of significant figures.

$$\begin{array}{r} 32.567 \\ 135.0 \\ + 1.4567 \\ \hline \end{array}$$

$$\begin{array}{r} 246.24 \\ 238.278 \\ + 98.3 \\ \hline \end{array}$$

$$\begin{array}{r} 658.0 \\ 23.5478 \\ + 1345.29 \\ \hline \end{array}$$

3. Calculate the answers to the appropriate number of significant figures.

a)  $23.7 \times 3.8$  = \_\_\_\_\_ f)  $1.678 / 0.42$  = \_\_\_\_\_

b)  $45.76 \times 0.25$  = \_\_\_\_\_ g)  $28.367 / 3.74$  = \_\_\_\_\_

c)  $81.04 \text{ g} \times 0.010$  = \_\_\_\_\_ h)  $4278 / 1.006$  = \_\_\_\_\_

d)  $6.47 \times 64.5$  = \_\_\_\_\_ i)  $(6.8 + 4.7) \times 17.44$  = \_\_\_\_\_

e)  $43.678 \times 64.1$  = \_\_\_\_\_ j)  $(320. - 22.7) \times 3.8$  = \_\_\_\_\_

k)  $\frac{(14.86 + 13.7) \times (65.346 - 4.10)}{(43.888 - 32.888)}$  = \_\_\_\_\_

# Significant Figures Worksheet Key

1. Indicate how many significant figures there are in each of the following measured values.

246.32	<u>5</u>	1.008	<u>4</u>	700000	<u>1</u>
107.854	<u>6</u>	0.00340	<u>3</u>	350.670	<u>6</u>
100.3	<u>4</u>	14.600	<u>5</u>	1.0000	<u>5</u>
0.678	<u>3</u>	0.0001	<u>1</u>	320001	<u>6</u>

Instructors Initials \_\_\_\_\_

2. Calculate the answers to the appropriate number of significant figures.

$$\begin{array}{r} 32.567 \\ 135.0 \\ + 1.4567 \\ \hline 169.0 \end{array}$$

$$\begin{array}{r} 246.24 \\ 238.278 \\ + 98.3 \\ \hline 582.8 \end{array}$$

$$\begin{array}{r} 658.0 \\ 23.5478 \\ + 1345.29 \\ \hline 2026.8 \end{array}$$

Instructors Initials \_\_\_\_\_

3. Calculate the answers to the appropriate number of significant figures.

- |                                   |   |                                      |                               |   |                                     |
|-----------------------------------|---|--------------------------------------|-------------------------------|---|-------------------------------------|
| a) $23.7 \times 3.8$              | = | <u>90.</u>                           | f) $1.678 / 0.42$             | = | <u>4.0</u>                          |
| b) $45.76 \times 0.25$            | = | <u>11</u>                            | g) $28.367 / 3.74$            | = | <u>7.58</u>                         |
| c) $81.04 \text{ g} \times 0.010$ | = | <u>0.81</u>                          | h) $4278 / 1.006$             | = | <u>4252</u>                         |
| d) $6.47 \times 64.5$             | = | <u>417</u>                           | i) $(6.8 + 4.7) \times 17.44$ | = | <u>201</u>                          |
| e) $43.678 \times 64.1$           | = | <u><math>2.80 \times 10^3</math></u> | j) $(320. - 22.7) \times 3.8$ | = | <u><math>1.1 \times 10^3</math></u> |

$$\text{k) } \frac{\begin{array}{r} 28.6 \\ (14.86 + 13.7) \end{array} \times \begin{array}{r} 61.25 \\ (65.346 - 4.10) \end{array}}{\begin{array}{r} 11.000 \\ (43.888 - 32.888) \end{array}} = \underline{159}$$