

Significant Digits Practice

1) Determine the number of significant digits in each of the following:

- | | |
|------------------------|-------------------|
| a) _____ 75.02 mm | d) _____ 0.0049 g |
| b) _____ 18.90 mL | e) _____ 150 cm |
| c) _____ 12 test tubes | f) _____ 150.0 km |

2) Re-write the quantity 827,000,000,000,000 picoseconds to show:

- a) 1 sig.fig. _____
- b) 2 sig.figs. _____

- c) 3
sig.figs. _____
- d) 4 sig.figs. _____

- e) 5
sig.figs. _____

3) Rewrite the quantity 0.0031904 kg to show:

- a) 1 sig.fig. _____
- b) 2
sig.figs. _____

- c) 3
sig.figs. _____

4) Round each of the following to 3 significant digits:

a) 16.8477 L

c) 0.14986

kg

e) 4.203×10^4 km

g) 0.00318756 m

b) 5.6732

s

d) 861.85

A

f) 5.0981×10^{-3} g

h) 0.0902501 cm

5) Perform the following calculations and report the results with the correct number of significant digits and proper units.

a) $0.0677\text{g} + 48.1\text{g} + 82.7655\text{g}$

b) $43.8316\text{ L} - 29.5706\text{ L}$

c) $4.3270\text{s} + 12.992\text{s} + 322.4\text{s}$

d) $22.975\text{ft} - 14.11\text{ft} - 3.05629\text{ft}$

e) $8506\text{cm} \times 0.02\text{cm} \times 6.524\text{cm}$

f) $0.0222\text{in} \times 0.7000\text{in} \times 8.702\text{in}$

g) $42.36\text{g} / 2.3965\text{cm}^3$

h) $14.9968\text{ mL} \times 3.864\text{g} / 3.4\text{ mL}$