

1. State the number of significant figures in each measurement.

- \_\_\_\_\_ a. 734 grams  
 \_\_\_\_\_ b. 82.400 meters  
 \_\_\_\_\_ c. 92,000°C  
 \_\_\_\_\_ d. 0.003 second  
 \_\_\_\_\_ e. 607 liters  
 \_\_\_\_\_ f.  $1 \times 10^{-4}$  hertz

### Rules for Counting Significant Digits:

- All non-zero digits and any zeros contained between non-zero digits count.  
**300042 = 6 significant digits**
- Leading zeros don't count.  
**0.000034 = 2 significant digits**
- Trailing zeros count if there is a decimal point.  
**0.0002500 = 4 significant digits**
- Trailing zeros may or may not count if there is no decimal point, so we go with the most conservative answer.  
**190000 = 2 significant digits** (could be up to 6)

2. Round the number in the first column to the number of significant figures stated in each column.

Number	Four significant figures	Three significant figures	Two significant figures	One significant figure
84.631				
0.94500				
7.95310				
2,058,268				

3. Perform the following operations. Round the answers to the appropriate number of significant figures. Label.

a.  $8.2 \text{ cm} \times 6.08 \text{ cm} \times 15.0 \text{ cm}$

c.  $23.4^\circ\text{C} - 8.4^\circ\text{C}$

b.  $34.8 \text{ meter} / 3.048 \text{ seconds}$

d.  $65.48 \text{ g} + 3.0 \text{ g} + 0.882 \text{ g} + 26.46 \text{ g}$

4. Write the following numbers to 3 significant figures; round or convert to scientific notation if needed

<b>34,534 m</b>		<b>0.2323 m</b>		<b>3,004 m</b>		<b>0.320 m</b>	
<b>4,000 m</b>		<b>0.0033 m</b>		<b>400.1 m</b>		<b>0.0001 m</b>	
<b>300.0 m</b>		<b>15.04 m</b>		<b>30.00 m</b>		<b>0.000004 m</b>	