

Significant Figures Reading

1. What determines the accuracy of when you are weighing an object?

measuring device

2. Why are significant figures important?

shows where device lost accuracy.

3. Fill out the T chart to show differences below

Precision	Accuracy
Repeatability of device measuring	- are values correct

4. Why must accurate measurements be precise?

- if they are accurate then values must be close to a single value

5. Write the Rules for significant figures. Give an example of each one.

Rules for zero's

Leading

Trailing

trapped

NON-Zero

all significant

6. Examples: Determine the number of significant figures.

- a. 101 grams 3 - measured
- b. 220 grams 2 - measured
- c. 220. grams 2
- d. 0.0870 grams 3
- e. 3.01 E-2 cm 3

7. What are the rules for calculations with significant figures?

addition
+/-
• subtract must know both values to complete addition/subtraction

x/÷ must use smallest sig figs in result of calculation.

8. Examples: Solve and explain.

a.
$$\begin{array}{r} 300 \text{ grams} \\ + 23.2 \text{ grams} \\ \hline 323.3 \end{array}$$

323 ← less than 5.

What should you round to and why?

b.
$$\begin{array}{r} 2 \\ 91 \text{ gram} \end{array} / \begin{array}{r} 300. \\ 31.03 \end{array} = 2.93$$

What should you round to and why?

2 sig figs, 91 only has 2

c.
$$\begin{array}{r} 2 \\ 83 \text{ grams} \end{array} \div 4 = 20.75$$

What should you round to and why? 2, smallest

$$83/4 = 20.75 \rightarrow 21.$$

↑ Rounding line

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