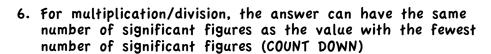
Significant Figures

Name	Period Date
	When performing calculations (and experiments) in chemistry and physics, you must follow significant figure rules. They give other scientists information about the equipment that you are using. Note: You will be expected to follow these rules on all future calculations. The sooner you memorize them, the easier things will be.
Rules	
1. All numbers that are not zero are significant	
Example:	53 g has significant figures
2. Zeroes at the beginning are never significant.	
Example:	.0023m has significant figures
	0.156m has significant figures.
	0.00113m has significant figures.
3. Zeroes between nonzero numbers always significant.	
Example:	407ml has significant figures
	30.11g has significant figures
	10003 has significant figures
	d of a number are significant if a <u>decimal</u> is shown.
Example: .650km has significant figure	
0.03100 km has significant figures	
4500	Ocm has significant figures

4500. cm has ____ significant figures

5. Counted or exact numbers (ex. 12 eggs in a dozen, 13 girls in the class) have an unlimited amount of significant figures.



Ex.
$$(.79 \text{ cm})(31.3 \text{ cm}) = 24.750 \text{ cm}^2 = 25 \text{cm}^2$$



7. For addition/subtraction, the answer can have the number of places after the decimal as the value with the fewest number of places after the decimal (CHOP off the extra the decimal places)

Ex.
$$104.622m + .1m = 104.722m = 104.7m$$

1. Tell how many significant figures

- a.) 0.4004 mL

- **b.**) 6000 g **c.**) 1.00030 km **d.**) 0.0006730 g

- e.) 50,000.0 μ L f.) 371 mol g.) 4.00 x 10^2 mm h.) 21 mL

2.) Addition/Subtraction. Calculate and report the answer in correct significant figures.

3.) Multiplication/Division. Calculate and report your answer in correct number of significant figures.

a.)
$$(3.8102 \text{ m})(3.44 \text{ m}) =$$

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 b.) $0.9420 \text{ g} =$ c.) $(2.24 \text{ cm})(7.943 \text{ cm}) =$ 13.16722 mL

d.)
$$246.8 \text{ cm}^3 / 2.46 \text{ cm} =$$
 e.) $612 \text{ g} / 7.15 \text{ml} =$ **f.**) $.28 \text{ m}^3 / 11.11 \text{m} =$

$$f_{\rm s}$$
) .28 m³ / 11.11m =