Data Analysis & Error in Measurement Chemistry Name: _____

Scientific Notation

Rules:

① **One digit in front of decimal** ② **write × 10** ③ **If <1 then – exponent. If >1 then + exponent.**

Put the following numbers into scientific notation:

1) 623 _____

2) 0.005 _____

3) 0.0404 _____

4) 90,000,000 _____

5) 4001 _____

6) 0.00025 _____

7) 56702 _____

8) 0.3 _____

Take the following numbers out of scientific notation:

9) 2.4×10^{3} _____

10) 3.01×10^{-3} _____

11) 8.20×10^{4} _____

12) 5.43×10^{-2} _____

13) 4.30×10^{-4} _____

14) 5.00×10^{7} _____

15) 1.43×10^{-5} _____

16) 2.09×10^{-8} _____

Qualitative & Quantitative Data

	(circle)	
17) The candle smells like apple cinnamon.	Qualitative	Quantitative
18) The candle contains 3 tsp of vanilla scented oil.	Qualitative	Quantitative
19) The lamp uses 60 watts of electricity.	Qualitative	Quantitative
20) I use neon bulbs in my lamp.	Qualitative	Quantitative

Accuracy & Precision

21) The mass of a rock was measured on three different balances. The results are shown below. Determine if each balance showed precision and accuracy. Indicate by writing *yes* or *no* in the box.

	Balance 1	**Balance 2**	**Balance 3**
True mass of rock: ***5.4 g***	6.1 g 5.0 g 4.7 g	3.3 g 3.1 g 3.2 g	5.2 g 5.5 g 5.3 g
precise?:			
accurate?:			

Percent error

22) Brittany conducted a density experiment with three trials to determine the density of copper. Her density results were: 7.49 g/mL, 7.51 g/mL, and 7.48 g/mL. The theoretical density of copper is 8.92 g/mL. What is the percent error of Brittany's average density?