

Name _____ Block: _____ Date: _____

Chemistry 11
UNIT 2 REVIEW

1. Complete the following table (try from memory first!)

Prefix	Abbreviation	Exponent
giga		
	μ	
		10^6
pico		
	d	
		10^{-9}
milli		
	k	
		10^{-2}

2. Convert the following:

a. 0.00085L into microliters

b. 432 ng into grams

c. 50 ks into Ms

d. 2 cg into μg

e. 12 pL into cL

f. 0.35 g/s into g/min

g. 70 kV into mV

h. 0.1 dm into millimetres

i. 3.46 mg/s into kg/ms

j. 0.96 kg/L into $\text{mg}/\mu\text{L}$

3. Of the following balances, which is the most **precise**? _____

How do you know? _____



4. What is the uncertainty of Balance A? _____ (hint: look at the decimal places)

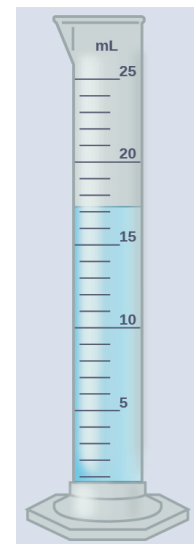
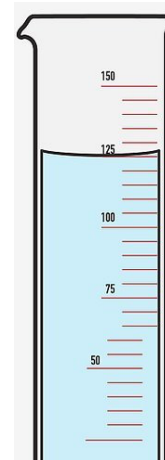
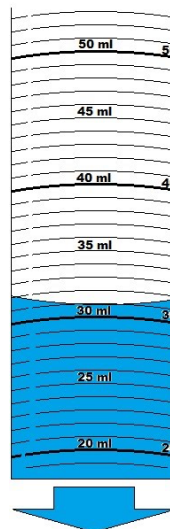
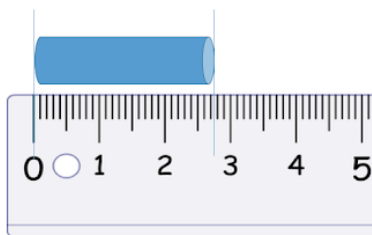
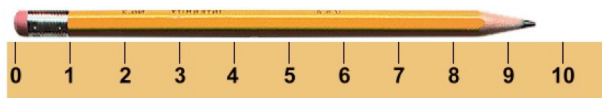
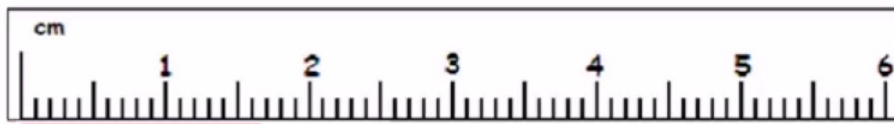
5. What is the uncertainty of Balance C? _____

6. The _____ digit in any measurement has some uncertainty.

7. The number of certain digits + 1 uncertain digit is called the number of _____

8. What is meant by the **accuracy** of a measurement? _____

9. Determine the correct reading on the following scales, including the uncertainty term. Assume all rulers are in cm and graduated cylinders are in mL.



10. Determine the number of **significant digits** (figures) in each of the following numbers.

- a) 45.002 _____ b) 3.400×10^4 _____ c) 0.000003 _____ d) 3000 _____

11. Express each of the following numbers to **2 significant digits** (figures).

- a) 45670 _____ b) 0.00003448 _____ c) 3000000 _____
d) 23.0954 _____ e) 4.56219×10^3 _____ f) 9 _____

12. Perform the following calculations and express the answer in the correct number of significant digits or decimal places as justified by the data. Do not forget the rules for multiplication and division and for addition and subtraction.

a) $3.4589 \times 0.0112 =$ _____ b) $(5.600 \times 10^{-7}) \div 0.700 =$ _____

c) $8.6 + 0.473 =$ _____ d) $3.2697 - 0.411 =$ _____

e) $(2.3 \times 10^{-7}) \times 8.22298 =$ _____

f) $(5.2468 \times 0.923) + (3.00210 \times 1.9999) =$ _____

g) $(6.210 + 0.92) \times (3.75411 + 1.32410) =$ _____

h) $\frac{(222.115 - 4.56892)}{(32.98 - 25.22316)} =$ _____