# REVIEW

Chapter 3 : Lesson 3B

1. Select the best description for each of the following :
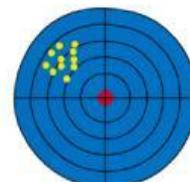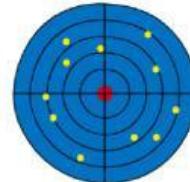
2. Three students each take 5 attempts to measure the length of a metal rod that has an exact length of 20 cm. Each student uses their own tape measure. Their results are shown in the Data Table below:

Measurements in cm			
# Attempt	Sally	Jack	Frank
1	22.1	19.8	20.1
2	22.0	20.1	20.0
3	22.0	20.3	20.0
4	22.1	19.7	20.1
5	22.0	20.2	20.0

Which student's measurements are very precise, but not very accurate ?

Which student had the most precise, and most accurate measurements ?

Which student's data represents Systematic Uncertainty ?

Which student's data represents Random Uncertainty ?

3. **Select options from the drop-down boxes to complete the statements below correctly :**

"Percent Error" is used to assess the _____ of experimental

results by comparing them to known / accepted values. The formula for

calculating "Percent Error" is as follows :

% Error   = $\left[\dfrac{\qquad\qquad - \qquad\qquad}{\rule{6cm}{0.4pt}} \right]$ X 100

The closer to 0 the % Error is, the more _____ the scientist's

measurements.

If % Error yields a _____ value, it means the scientist is

measuring too high (above the true value).

If % Error yields a _____ value, it means the scientist is

measuring too low (below the true value).

4. **Calculate the % Error if the density of Acetone is measured during a Lab as 0.571 g/mL, but the true value is 0.498 g/mL.**

   A) 0.14659

   B) 1.4659

   C) 14.659

   D) 146,59

5. **Provide the following measurements. Maintain integrity :**
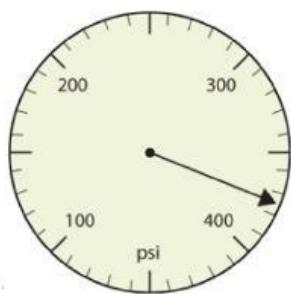

_____ psi
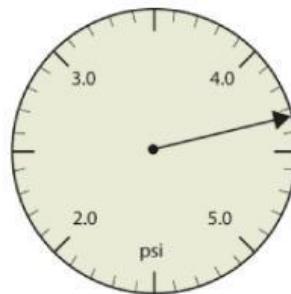

_____ psi
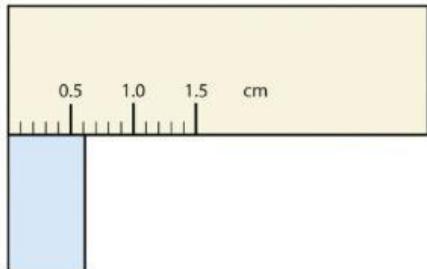
_____ cm
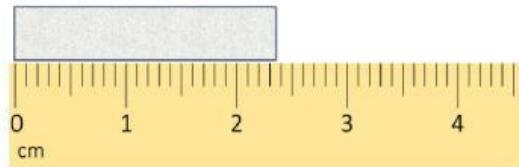

_____ cm
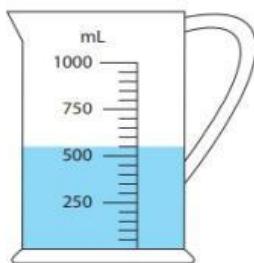
_____ mL

_____ mL
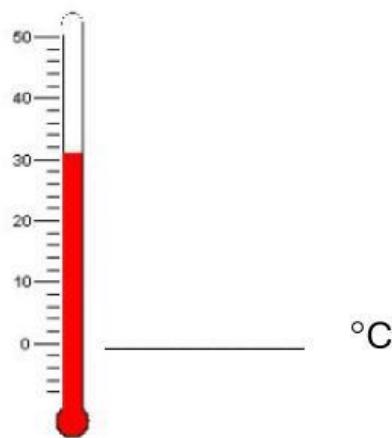
_____ °C
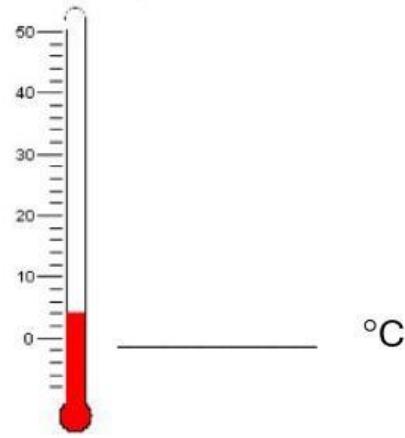
_____ °C

6. In which of the following scenarios is the scientist making a Parallax Error ? Select all that apply.

A.
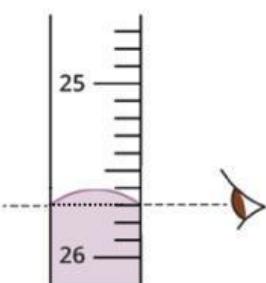
B.
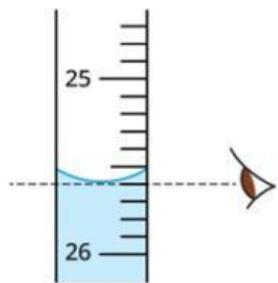
C.
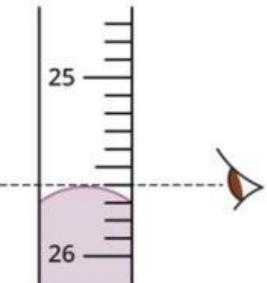
D.
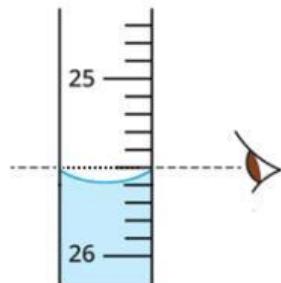
7. **Look at the 2 glass tubes below. Select options from the drop-down boxes to complete the statements below correctly :**

a)   b)
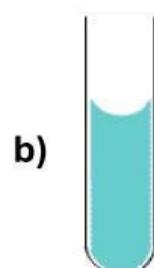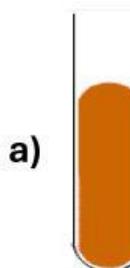
Scenario (a) most probably contains _____ because it forms

a _____ meniscus.

Scenario (b) most probably contains _____ because it forms

a _____ meniscus.

In Scenario (a) the _____ forces (between the liquid particles)

are stronger than the _____ forces (between particles and

glass). In Scenario (b) the situation is swapped around.

8. **How many SigFigs are there in the following numbers ?**

8,535   _____   0.09   _____

1005.01 _____   90   _____

2.500 x 10^6 _____   90.0   _____

9. **Write the following numbers in Standard Notation :**

2.5×10^3 = _____

2.5×10^{-3} = _____

10. **Write the following numbers in Scientific Notation :**

0.000059 = _____ X 10

$5,100,000$ = _____ X 10