

# Bell Work, Sept 23- 26, 2013

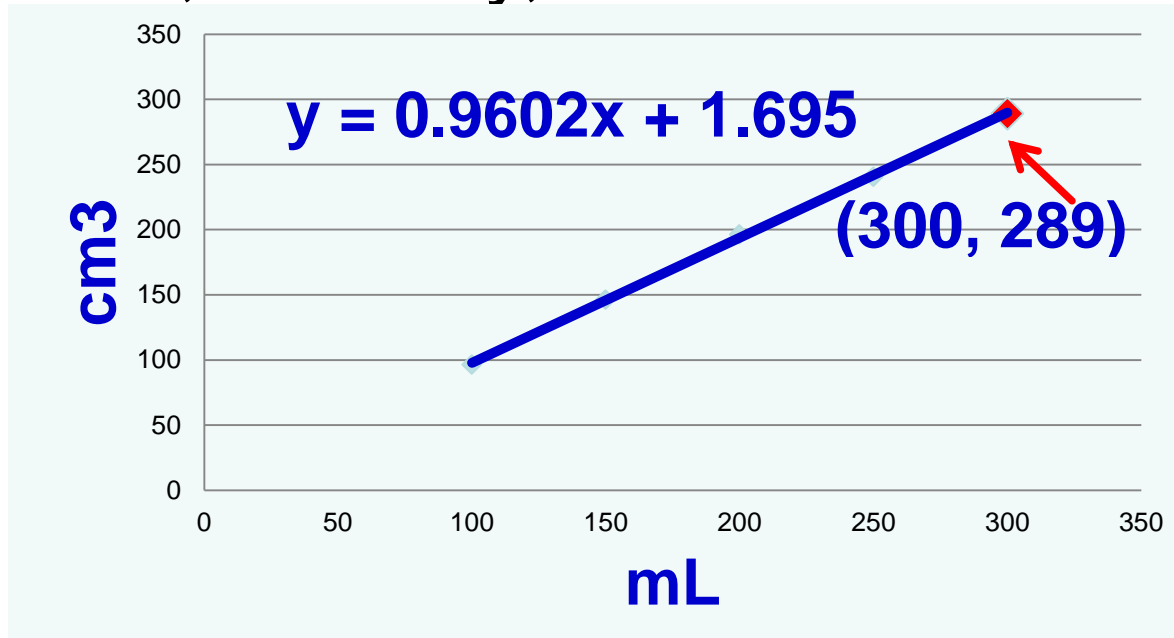
Mass and Volume, Concentration

# Bell Work, Monday, 23

**Draw the graph:**

**1. What does negligible mean?**

**Insignificant or a value of zero.**



**2. What is the 5% rule for y intercept?**

**If the y intercept < 5% of the maximum y value , it is negligible and equals zero.**

**3. Is the above y-intercept negligible? Why or why not?**

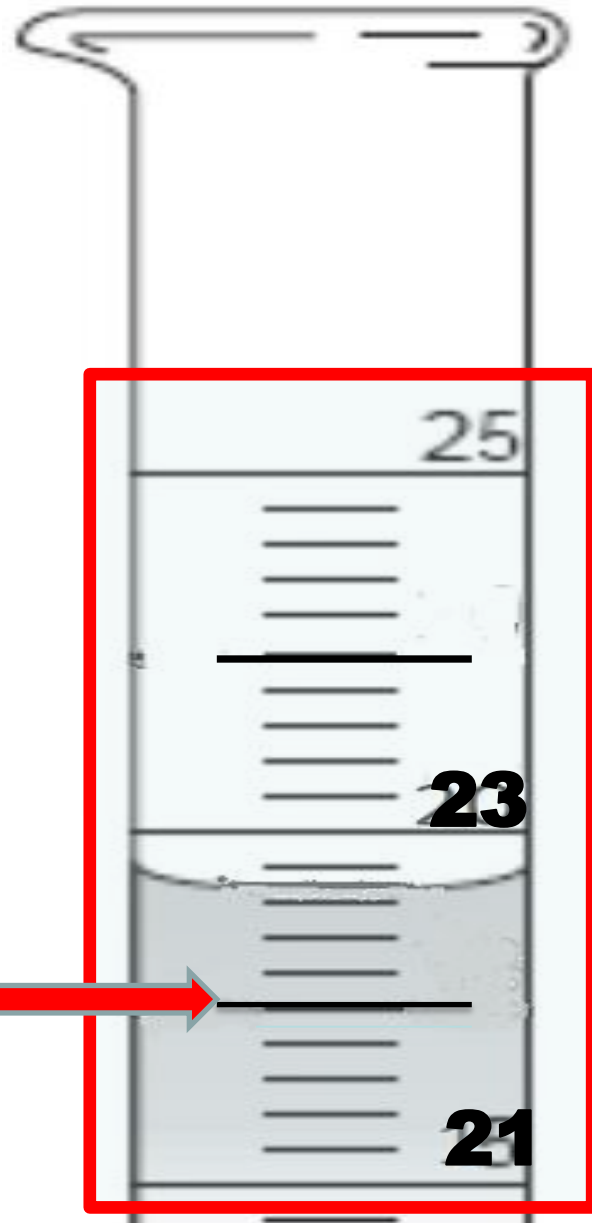
**Yes, negligible. 289 is the max y value.**

**The y int. = 1.695**

**5% of 289 (  $0.05 \times 289$  ) = 14.45,  $1.695 < 14.45$**

# Bell Work, Tues, Sept 24, 2013

*Draw the section of the cylinder in the red box:*



**1. Determine the value of each minor mark**

$$\frac{25 - 23}{10 \text{ lines}} = 0.2 \text{ mL}$$

**2. What is the uncertainty?**

**Estimation is  $\frac{1}{2}$  the minor mark, which is**

$$\frac{0.2 \text{ mL}}{2} = 0.1 \text{ mL}$$

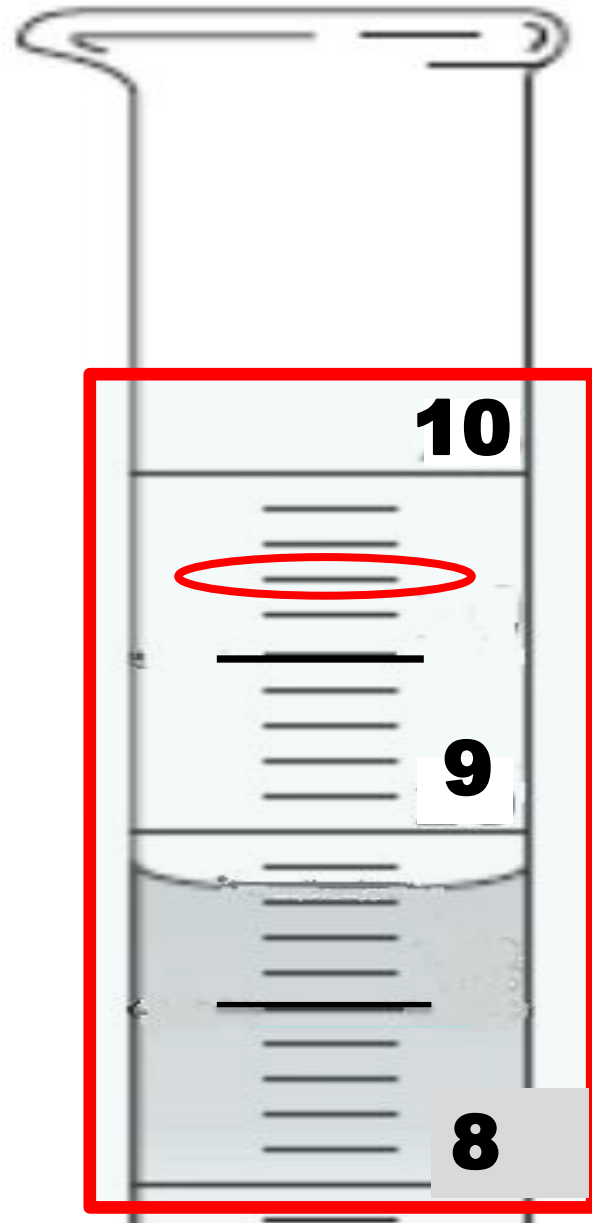
**3. What is the measurement shown in  $\text{cm}^3$ ?  $22.7 \text{ cm}^3$**

**4.  $1 \text{ mL} = \underline{1} \text{ cm}^3$**

**5. This measurement has 3 sig. figs.**

# Bell Work, Tues, Sept 24, 2013

*Draw the section of the cylinder in the red box:*



**6. Determine the value of each minor mark**

$$\frac{10 - 9}{10 \text{ lines}} = 0.1 \text{ mL}$$

**7. What is the uncertainty?**

**Estimation is  $\frac{1}{2}$  the minor mark, which is**

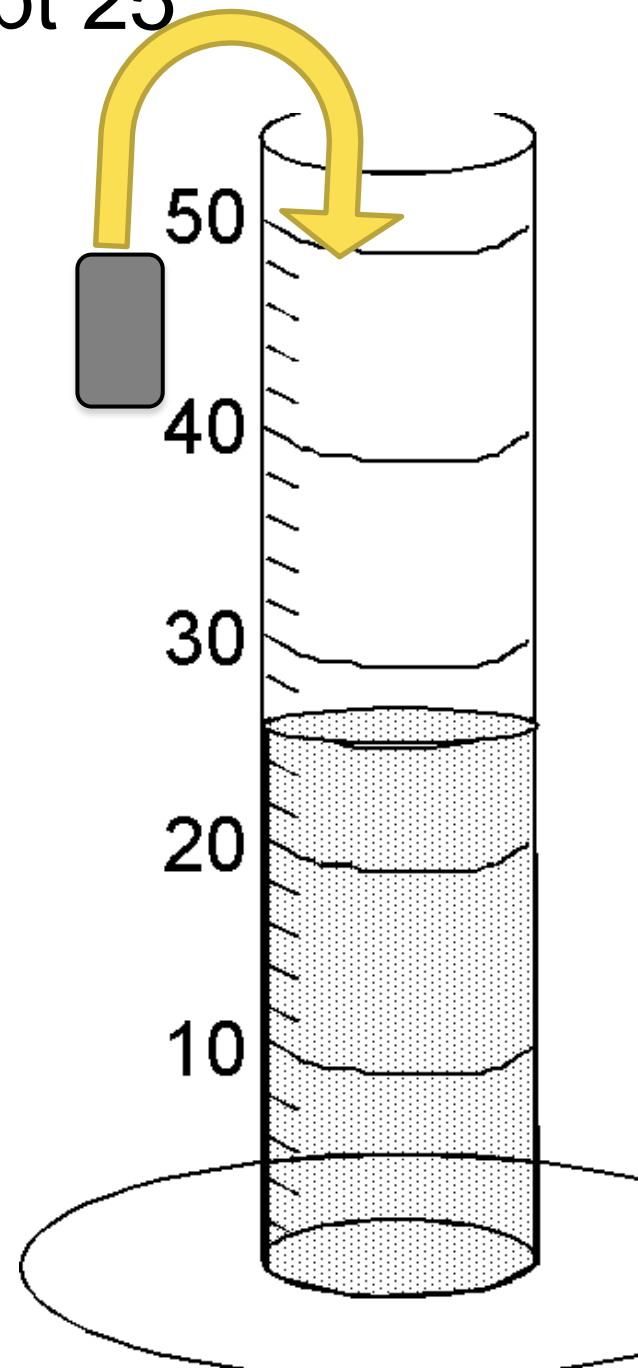
$$\frac{0.1 \text{ mL}}{2} = 0.05 \text{ mL}$$

**8. What is the measurement shown in  $\text{cm}^3$ ? 8.85  $\text{cm}^3$**

**9. The measurement has 3 significant figures**

## Bell Work, Wednesday, Sept 25

1. To the right is a cylinder containing water. An object with a mass of 21g and a volume of  $15 \text{ cm}^3$  is lowered into the water.
  - a. What is the value of the minor mark?
  - b. What is the initial volume.
  - c. What is the final volume.
  - d. Sketch the object and the new water level in the cylinder on the right.



# Bell Work, Wednesday, Sept 25

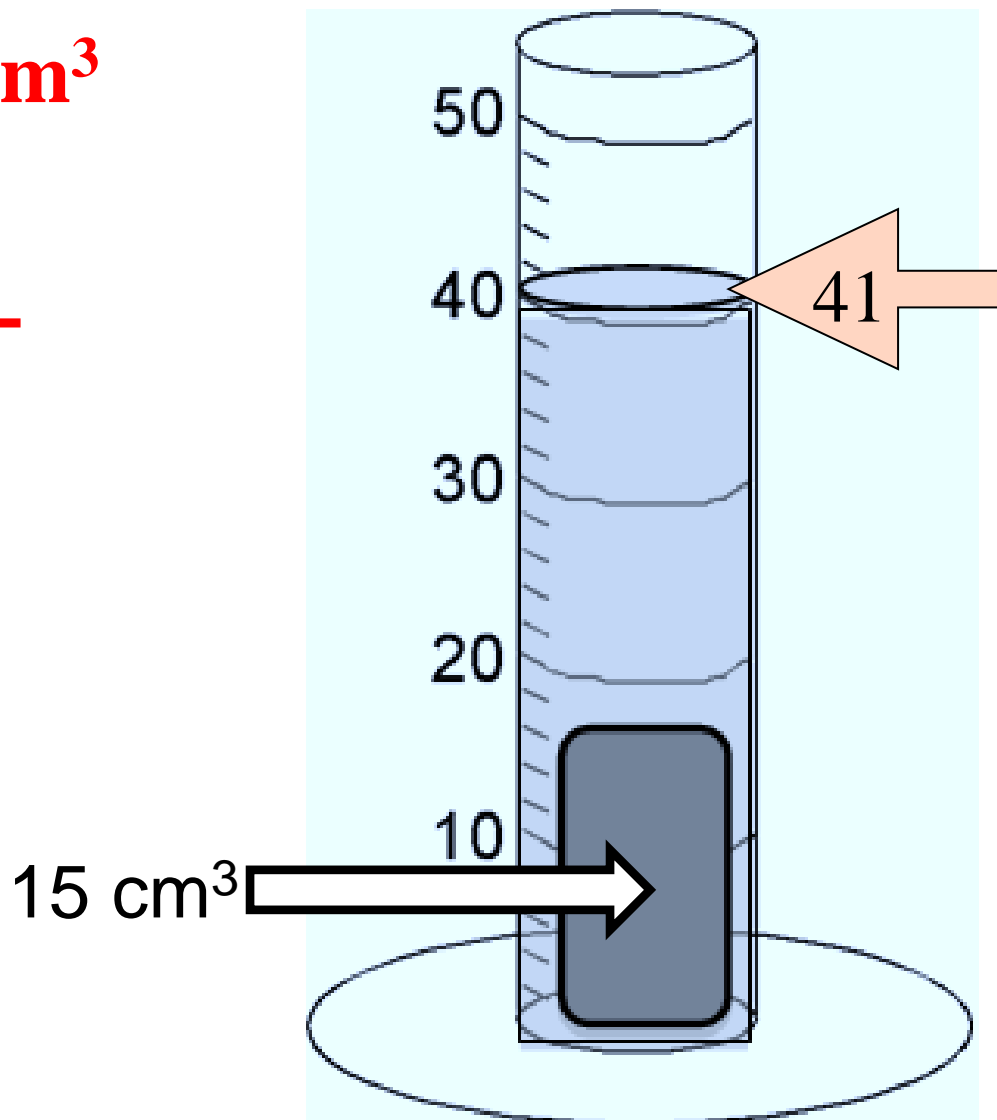
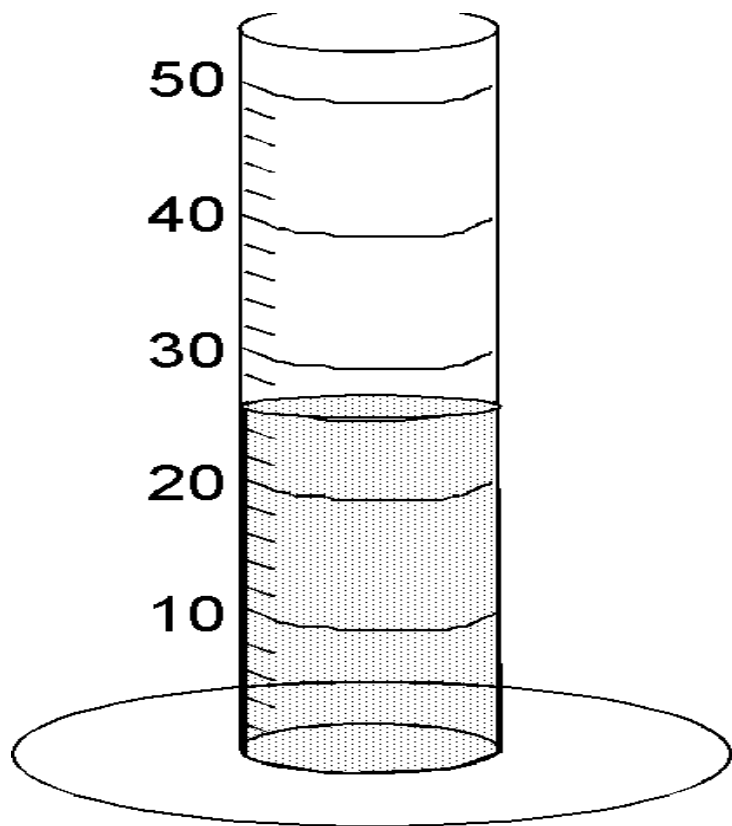
**1 a.** minor mark =  $50 - 40 / 5 = 2 \text{ mL}$

**d.**

**b.** initial volume =  $26.0 \text{ cm}^3$

**c.** final volume =

$$26 \text{ cm}^3 + 15 \text{ cm}^3 = 41 \text{ mL}$$



Bell Work, Wednesday, Sept 25

**2. Cubic centimeter is a unit used to measure**

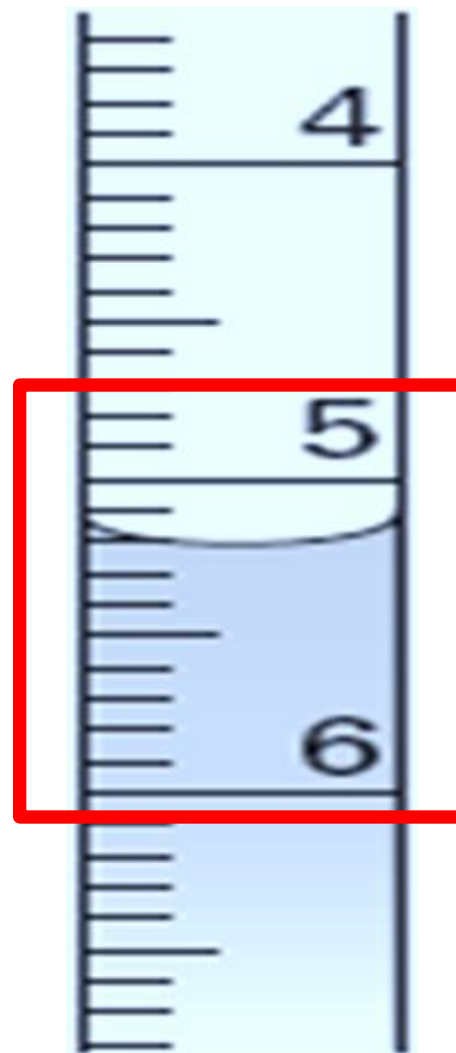
- a. mass      **b. volume**      c. area      d. weight

**3. The correct reading in  $\text{cm}^3$  is**

- a. 5.10      d. 5.2  
b. 5.1      e. 5.25  
**c. 5.20**

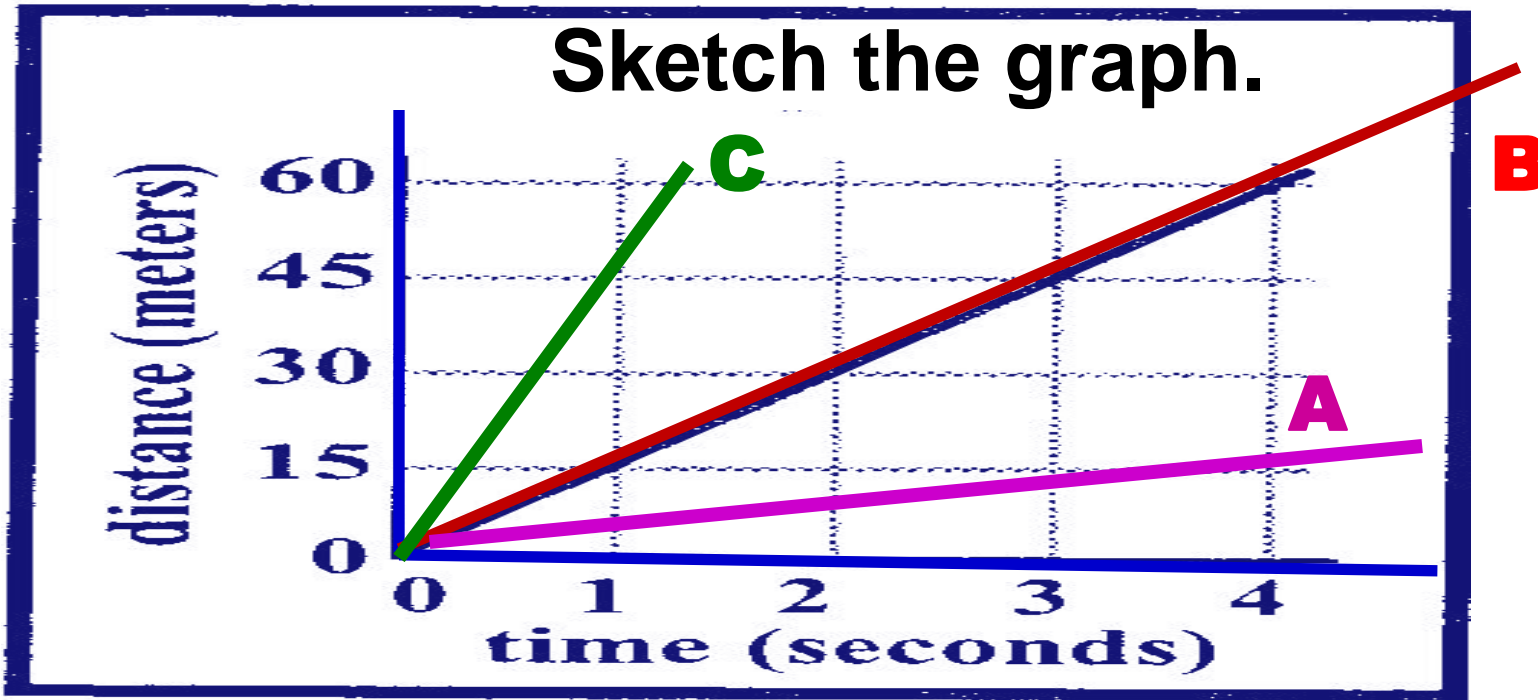
**4. The estimation or uncertainty in mL is**

- a. 1.05      d. 0.10  
b. 0.50      **e. 0.05**  
c. 1.0



***Draw the section in the red box.***

# BELL WORK, Thursday, Sept 26



1. Label the speed of the lines:

**A. slowest**

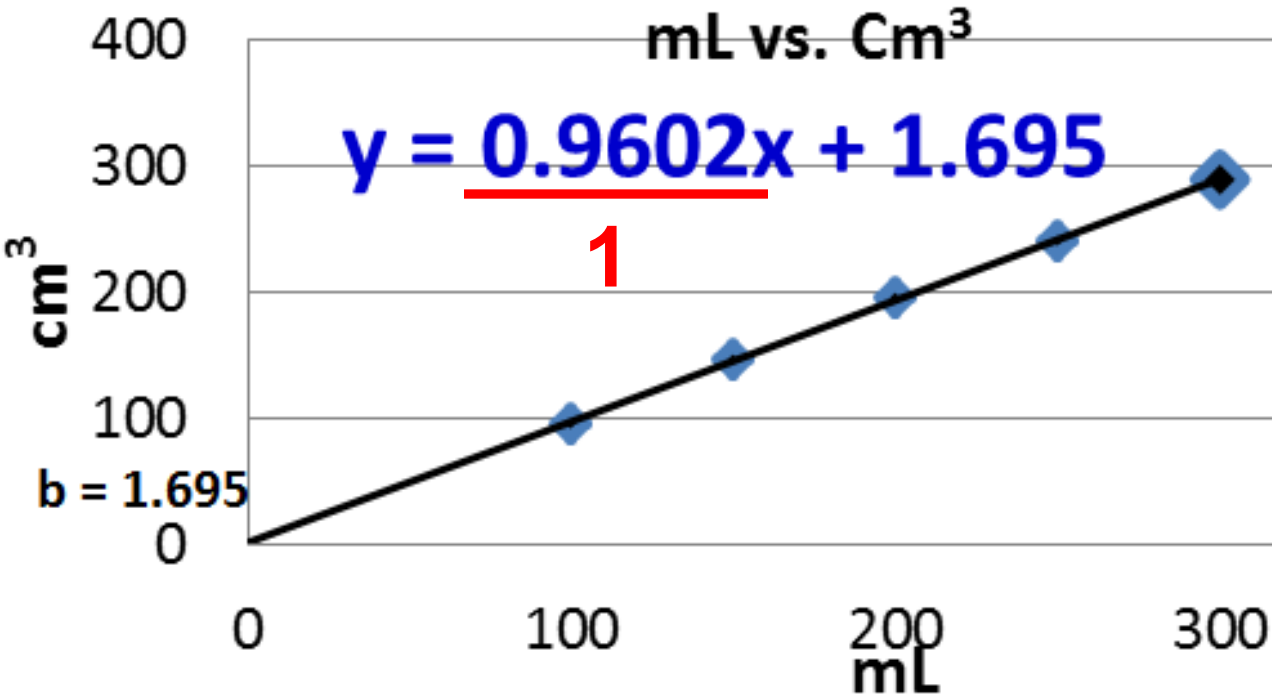
**B. faster**

**C. Fastest**

**The greater slope, the greater the change.**



# Bell Work, Thursday, Sept 25



2. Write the slope.  
What does the slope of this line tell you about the relationship between the variables?

For every 1 ml change (increase or decrease ) the  $\text{cm}^3$  change (increase or decrease) by 0.9602. In other words,  $1\text{mL} = 0.9602 \text{ cm}^3$

3. What does the y intercept (b) line tell you about the relationship between the variables?

When the  $\text{cm}^3 = 1.695$ , the  $\text{mL} = 0$  or  
 $0 \text{ mL} = 1.695 \text{ cm}^3$

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Slide](#)

# Bell Work, Thursday, Sept 25

## 4) Define solute

**Solute – The thing being dissolved. It is present in lesser quantity than the solvent.**

## 5) Define solvent

**Solvent – is the dissolving stuff; it is in excess (more solvent present than solute.)**

## 6. Define concentration.

**The amount of solute dissolved in the amount solvent.**

## 7. What is a 1% solution?

**1 gram or mL of solute dissolved in a 100 mL of solvent**

**Examples: 1% aspirin solution = 1 gram of aspirin dissolved in 100 grams of water; 1 mL Coke in 100 mL of alcohol.**