

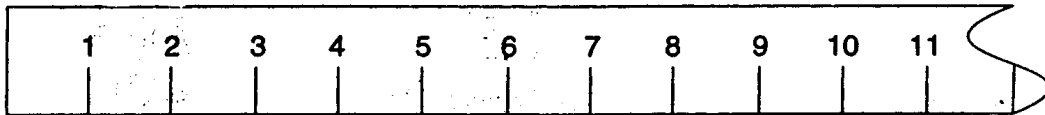
PART A: LENGTH

Procedures:

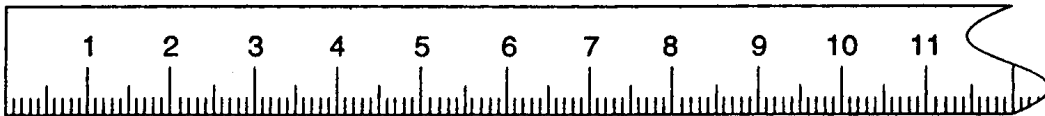
1. Cover all three rulers below with a piece of paper.
2. Move the paper to uncover the first ruler.
3. Measure the paper clip with the first ruler only.
4. Record your data.
5. Move the paper to uncover the second ruler.
6. Measure the paper clip with the second ruler only.
7. Record your data.
8. Remove the paper.
9. Measure the paper clip with the third ruler.
10. Record your data.



length of paper clip
_____ cm



length of paper clip
_____ cm



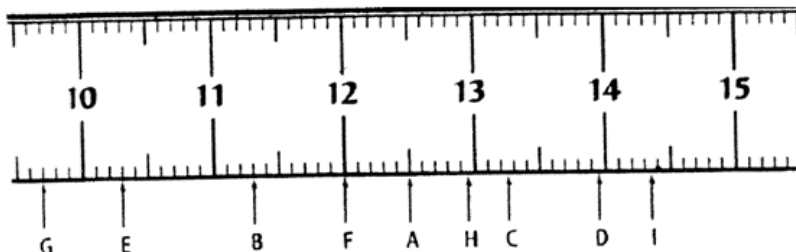
length of paper clip
_____ cm

Conclusion Part A:

1. Which ruler was easier to use?
2. Which ruler provided a more exact measurement?
3. Which ruler required you to estimate?
4. How many numerical digits are in your centimeter measurement for the:
 - Ruler #1: _____
 - Ruler #2: _____
 - Ruler #3: _____

Extension:

Use the ruler below to find all the measurements:



- | | |
|----------|----------|
| a. _____ | f. _____ |
| b. _____ | g. _____ |
| c. _____ | h. _____ |
| d. _____ | i. _____ |
| e. _____ | |

PART B: VOLUME

Procedure

1. Measure the volume of water in the 100mL graduated cylinder, 10 mL graduated cylinder, Buret, & the 50 mL Beaker.

| Glassware | Volume |
|--------------------------|---------------|
| 50 mL Beaker | |
| 100mL Graduated Cylinder | |
| 10mL Graduated Cylinder | |
| Buret | |

Conclusion:

1. Which piece of glassware was easier to use?
2. Which piece of glassware provided a more exact measurement?
3. Which piece of glassware required you to estimate the most?
4. How many numerical digits are in your measurement for each piece of glassware:
 - 50 mL beaker: _____
 - 100 mL graduated cylinder: _____
 - 10 mL graduated cylinder: _____
 - Buret: _____

FINAL CONCLUSION FROM PART A AND PART B IS:

When reading a measurement the last digit should

ALWAYS be _____.