

## Significant Digits and Measurement Pogil Key

### Page 1

- 1) Zero and 10 cm
- 2) No, they were not.
- 3) Students might have split the ruler in half, then in half again or they might have split the ruler in thirds.

### Page 2

- 4) Whole numbers between 1 and 10 cm (0, 1,2,3,4,5,6,7,8,9, and 10 cm or 0-10 cm)
- 5) Yes! the 3 (or the one's place)
- 6) The cm markings for the whole numbers
- 7) Ruler 1 because no cm markings
- 8) a.)Yes. 3- ones place and 2- tenths place b.) mm markings (there are more marks/divisions for ones and tenths place)

### Page 3

- 9) Ruler A:     **3** cm            **2** cm  
Ruler B:     3.2 cm        3.1 cm        3.3 cm  
Ruler C:     3.21 cm       3.22 cm       3.20 cm  
Certain digits are underlined and estimated digits are in red.

- 10) hey folks, this is not a multiple choice problem – READ CAREFULLY!!!!  
a. one            b. last            c. one tenth of the smallest marks

### Page 4

- 11) He did not make an estimate, he needs to estimate the tenths place digit
- 12) 3.20 cm with Ruler B has two digits estimated (both the 2 and the 0) which is invalid but when Ruler C is used only the zero is estimated (only the last digit was estimated) which makes the measurement valid.
- 13) Ruler B because certain of the whole numbers (ones place) and estimated the tenths.
- 14) Ricky's measurement is valid because it is within 0.01 of the accepted value.
- 15) Acceptable: 7.0 cm, 7.1 cm            Not Acceptable: 7 cm, 7.00 cm