Chemistry September 2018 Name: Due: WS3 Significant Figures

1. How many significant figures does each measurement below have? (If a number has no significant figures, write “none”. If a measurement is written ambiguously, indicate the minimum and maximum significant figures)

|  |  |
| --- | --- |
| a) 3.005 cm | f) 0.000 005 kg |
| b) 0.0034 g | g) 2.000 x102 mol |
| c) (4.30±0.05) W | h) 2.0 x102 mol |
| d) 1.01 J | i) 75 |
| e) 23000 cm | j) π |

Assume π=3.1415926535897932384626433832795028841971693993751058209749445923078164

Which one of the measurements is written ambiguously? \_\_\_. How should the observer have written the measurement in order to indicate 3 significant figures? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain your answers for part i and j above: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Add or subtract the following measurements: (give the correct unit and significant figs in your answer)

1. 27.54 g + 19.2 g \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 23.57 cm + 22.4 cm + 6.56 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 1.3456 L – 25.75 mL \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Multiply the following measurements: (give the correct units and number of significant figures in your answer)

1. 22.4 cm x 1.2 cm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 25 N x 6.34567 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 456.5 kg x 76.5 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_