**Significant Figures Worksheet #2**

1. State the number of significant digits in each measurement.

1)    **2804 m** 4          2)   **2.84 km**  3             3)   **5.029 m**  4

4)   **0.003068 m**       4   5)   **4.6 x 105 m**  2      6)   **4.06 x 10-5 m**   3

7)   **750 m**    2 or 3          8)  **75 m** 2                         9)   **75,000 m
 2, 3, 4, or 5**

10)   **75.00 m**   4   11)  **75,000.0 m** 6      12)  **10 cm 1 or 2**

2. Round the following numbers as indicated:

To four figures:

**3.682417 21.860051 375.6523 112.511 45.4673**

3.682 21.86 375.7 112.5 45.47

To one decimal place:

**1.3511 2.473 5.687524 7.555 8.235**

1.4 2.5 5.7 7.6 8.2

To two decimal places:

22.494 79.2588 0.03062 3.4125 41.86632
22.50 79.26 0.03 3.41 41.87

3. Solve the following problems and report answers with appropriate number of significant digits.

1)      **6.201 cm + 7.4 cm + 0.68 cm +12.0 cm =  26.3 cm**

2)     **1.6 km + 1.62 m +1200 cm =   1.2 x 103 or 1.20 x 103 or 1203 m**

3)     **8.264 g - 7.8 g =    0.5 g**

4)     **10.4168 m - 6.0 m =  4.4 m**

5)     **12.00 m+15.001 kg=   can’t add m and kg**

6)     **1.31 cm x 2.3 cm =   3.0 cm2**

7)     **5.7621 m x 6.201 m =  35.73 m2**

8)    **20.2 cm : 7.41 s =   2.73 cm/s**

9)    **40.002 g : 13.000005 g = 3.0771**

4. Express the following numbers in their equivalent standard notational form:

### 1) 123,876.3 1.238763 x 105

### 2) 1,236,840 1.23684 x 106

### 3) 422000 4.22000 x 105

### 4) 0.000000000000211 2.11 x 10-13

### 5) 0.000238 2.38 x 10-4

### 6) 0.0000205 2.05 x 10-5

5. Identify the sums or differences of the following:

### 1) (8.41 X 104) + (9.71 X 104) = 1.81 x 105

### 2) (5.11 X 102) - (4.2 X 102) = 91

### 3) (8.2 X 103) + (4.0 X 103) = 1.22 x 10 4

### 4) (6.3 X 10-2) - (2.1 X 10-2) = 4.2 x 10-2

6. Express the product and the quotients of the following:

### 1) (3.56 X 105) (4.21 X 106) = 1.50 x 1012

### 2) (2 X 107) (8 X 10-9) = 0.2

### 3) (4.11 X 10-6) (7.51 X 10-4) = 3.09 x 10-9

### 4) 8.45 X 107 / 6.74 X 103 = 1.25 x 104

### 5) 9.7 X 108 / 8.6 X 10-2 = 1.1 x 1010

### 6) 4.7 X 10-2 / 5.7 X 10-6 = 8.2 x 103