**Worksheet #5**

# Name: Period: Seat#:

**Give the number of significant figures in each of the following:**

|  |  |  |  |
| --- | --- | --- | --- |
| **1)** 402 m | **2)** 34.20 lbs | **3)** 0.03 sec | **4)** 0.00420 g |
| **5)** 3200 liters | **6)** 0.0300 ft. | **7)** 5.1 x 104 kg | **8)** 0.48 m |
| **9)** 1400.0 m | **10)** 78323.01 g | **11)** 1.10 torr | **12)** 760 mm Hg |

**Multiply each of the following, observing significant figure rules:**

|  |  |
| --- | --- |
| **13)** 17 m x 324 m = | **14)** 1.7 mm x 4294 mm = |
| **15)** 0.005 in x 8888 in = | **16)** 0.050 m x 102 m = |
| **17)** 0.424 in x .090 in = | **18)** 324000 cm x 12.00 cm = |

**Divide each of the following, observing significant figure rules:**

|  |  |
| --- | --- |
| **19)** 23.4 m ÷ 0.50 sec = | **20)** 12 miles ÷ 3.20 hours = |
| **21)** 0.960 g ÷ 1.51 moles = | **22)** 1200 m ÷ 12.12 sec = |

**Add or subtract each of the following, observing significant figure rules:**

|  |  |  |
| --- | --- | --- |
| **23)** 3.40 m + 0.022 m + 0.5 m | **24)** 102.45 g + 2.44 g + 1.9999 g | **25)** 102. cm + 3.14 cm + 5.9 cm |
| **26)** 42.306 m - 1.22 m | **27)** 14.33 g - 3.468 g | **28)** 234.1 cm – 62.04 cm |

**Work each of the following problems, observing significant figure rules:**

1. Three determinations were made of the percentage of oxygen in mercuric oxide. The results were 7.40%, 7.43%, and 7.35%. What was the average percentage?
2. A rectangular solid measures 13.4 cm x 11.0 cm x 2.2 cm. Calculate the volume of the solid.
3. If the density of mercury is 13.6 g/ml, what is the mass in grams of 3426 ml of the liquid?
4. A copper cylinder is 12.0 cm in radius and has a height of 44.0 cm. If the density of copper is 8.90 g/cm3, calculate the mass in grams of the cylinder. Remember that the equation for volume is v = πr2h

(assume pi = 3.14)