Significant Figures Homework

1)   What is the difference between accuracy and precision?

2)   A student can hold her breath for 94 seconds. If another student records the time that she can hold her breath as 92 seconds, what is the percent error in this measurement?

3)   How many significant figures are in the following values?

   a)   4.50 grams _____

   b)   100.0 grams _____

   c) 9.1×10^{-3} L _____

   d)   0.0010110 m _____

   e)   6700 K _____

4)   Solve the following problems using the correct number of significant figures in the answer:

   a)   86 grams / 1.223 mL = _____

   b)   0.12 grams + 12.998 grams = _____

   c)   91.3 grams – 0.96 grams = _____

   d)   450 mm + 13.83 mm = _____

   e)   23.4º C / 34 sec = _____

5)   Solve the following problem using the correct number of significant figures: If one piece of a machine is measured by one engineer to be 230 mm long and the other piece of the machine is measured by another engineer to be 3.4 m long, what is the length of the assembled piece of machinery?