Significant Figures and Unit conversion

Write the number of significant figures in the space provided, and then convert the numbers to scientific notation in the right hand blank.

1.) 12 345   _____   _____

2.) 0.24589   _____   _____

3.) 1 000   _____   _____

4.) 0.02356   _____   _____

5.) 745 256 568   _____   _____

6.) 0.000 004   _____   _____

7.) 0.024   _____   _____

8.) 1 001   _____   _____

9.) 10 234   _____   _____

10.) 0.000000000 7 _____   _____

Which digit is assumed to be uncertain when dealing with a number in science and no uncertainty is stated?

If a measurement of length is stated as 15 cm, what is the assumed uncertainty?
+/- _____

If a measurement of length is stated as 15.3 cm, what is the assumed uncertainty?
+/- _____

Unit conversion practice: Metric units
Perform the following conversions, showing your work to set up the conversion.

1) 23.5 kilometers to meters.   2) 2 cm to mm

3) 250 mm to meters.   4) 570 g to kg.

5) 180.08 kg to g   6) 120 mL to Liters

Unit conversion practice: Different systems
Perform the following conversions, showing your work to set up the conversion, and rounding your final answer to three significant digits.

1) 13.5 inches to cm.   2) 15.8 cm to inches

3) 13.25 feet to meters   4) 5.2 meters to feet

5) 1.5 miles to kilometers   6) 18.4 km to miles

7) 15.4 minutes to seconds   8) 228,500 seconds to hours

Solve these problems, giving your final answer in the specified units.

The mass of an object is 0.5 kg, and its volume is 180 mL. Find its density in g/mL.

The density of an object is 18.0 g/mL. Find the mass of 1.3 Liters of the same material, in kilograms.