Rules for Significant Figures

What’s a significant figure (or digit)?
(1) A digit that has been measured experimentally, or
(2) A digit derived from an experimental measurement.

What figures are significant?
(1) All non-zero digits
(2) Zeros between non-zero digits
(3) Trailing zeros to the right of the decimal point
   e.g. 9.950 has four significant figures

What figures are not?
(1) Place-holding zeros to the right of the decimal place
   e.g. 0.00995 has three significant figures
(2) Place-holding zeros to the left of the decimal place(??)
   e.g. 30 has one or two significant figures?

To be unambiguous, use scientific notation:
   e.g. 3 x 10^1: one significant figures
   3.0 x 10^1: two significant figures

In lab, the last figure you should record is the first figure with some uncertainty.
   e.g.

Significant Figures and Arithmetic:

(1) Multiplication and Division: The final answer will have as many significant figures as the number in the calculation with the fewest significant figures.
   e.g.
(2) Addition and Subtraction: The final answer’s last significant figure will be in the same “place” (that is, order of magnitude) as the last significant figure in the least accurate number.

e.g.