1,234,567,890,123,456

234,567,890,123,456.1

34,567,890,123,456.12

1.123 456 789 012 345 678

0.123 456 789 012 345 678 9

1.234E17 +/- 1E20

1,234,567,890,123,456 +/- 8

1,234,567,890,123,000 +/- 4,000

1,000,000,000,000,000 +/- 1,000,000,000,000,000

If >= e17 switch to exponential

If log(precision) < -16, switch to exponential

Number of digits to the left of the decimal point = floor(log10(value))+ 1

Number of non-zero digits to the left of the decimal point =

If log10(p) >= 0, floor(log10(value))+1 – floor(log10(precision)

Need to deal with the case where the magnitude of the precision is greater than the value. Also need to reduce precision based on uncertainty.