Name _____

Units:

1) Give the words associated with each of the following abbreviations:



2) Referring to the previous problem:

- a) what is the relationship between d and a?
- b) what is the relationship between b and g?
- c) what is the relationship between c and h?

Precision:

3)Using the scales below determine the measurement. Your measurement should include the correct number of digits after the decimal point.



5)If a measurement is reported as 8 cm, that indicates the person taking the measurement knew the thing they were measuring was greater then 7cm and less than 9 cm. A measurement of 8 cm has an implied range of 7 - 9 cm. If this same measurement was reported as 8.11 cm, it's implied range would be from 8.10 - 8.12 cm. Which is more precise? Explain the meaning of precision.

6) What is the implied range of each of the following numbers:

- a) 14 g
- b) 3.00 cm
- c) 50.146 ml
- 7) Is there a difference between recording a measurement of something as 5 cm vs. 5.0 cm? Explain.

Scientific Notation:

8) Convert the following to "normal" decimal numbers:

a) 1.467 x 10 ⁻⁴	e) 4.301 e-6
b) 3.2 x 10 ⁵	f) 9.00 e+8
c) 3.200 x 10 ⁵	g) 1.10 e-4
d) 6.100 x 10 ⁻²	h) 8.1 e-1

9) How many significant digits are in each of the above numbers?10) Convert the following to scientific notation:

a) 0.0053	e) 20500000 (with 3 sig. dig.)
b) 0.00530	f) 205000000 (with 5 sig. dig.)
c) 4301689	g) 4300 (with 2 sig. dig.)
d) 0.88000	h) 0.000000150

11) How many significant digits are in each of the above numbers?