

Honors Chemistry 1

Hill-Petrucci

Chapter 1

P 28 & 29 #15,16,17,19,41,42,48

15. Precision refers to how closely individual measurements agree with one another. Accuracy of a set of measurements refers to the closeness of the average of the set to the "correct" or most probable value.
16. b
17. The number of sig figs is determined by including the first uncertain number. The first uncertain number is the digit in which there is enough variation in value as to make the number uncertain. Greater precision means more sig figs.
19. A conversion factor changes the units of a measurement without changing the value. The numerator and denominator of a conversion factor must be equivalent to each other.
41. a. $3.74 \times 10^{-2}\text{L}$
b. $1.55 \times 10^5\text{m}$
c. 0.198g
d. $1.19 \times 10^4\text{cm}^2$
e. 0.078ms
f. 24 m/s
42. a. 0.546m
b. $3.60 \times 10^9\mu\text{s}$
c. $8.76 \times 10^{-5}\text{kg}$
d. $4.63 \times 10^4\text{L}$
e. $1.81 \times 10^{-4}\mu\text{m}$
f. 1.5 km/min
48. 22.8 mi/hr or 0.613 km/min