Page 95 (56-70, skip 61, 64, 67)

56. Three students made multiple weighings of a copper cylinder, each using a different balance. Describe the accuracy and precision of each student's measurements if the correct mass of the cylinder is 47.32 grams.

	Mass of cylinder (g)		
	Colin	Lamont	Kivrin
Weighing 1	47.13	47.45	47.95
Weighing 2	47.94	47.39	47.91
Weighing 3	46.83	47.42	47.89
Weighing 4	47.47	47.41	47.93

57. How many significant figures are in each underlined measurement?

a. 60 seconds = 1 minute

b. 47.70 grams of copper

c. 1 km = 1000 meters

d. 25 computers

e. 9 innings in a baseball game

f. 0.0950 meters of gold chain

58. Round off each of these measurements to three significant figures.

a. 98.473 L

b. 0.00076321 cg

c. 57.048 m

d. 12.17^0C

e. 0.0074983 X 10^4 mm

f. 1764.9 mL

59. Round off each of the answers correctly

a. 8.7 g + 15.43 + 19 g = 43.13 g

b. 4.32 cm X 1.7 cm = 7.344 cm^2

c. 853.2 L – 627.443 L = 225.757 L

d. 38.742 m^2 / 0.421 m = 92.023 m

e. 5.40 m X 3.21 m X 1.871 m = 32.431914 m^3

f. 5.47 m^3 + 11 m^3 + 87.300 m^3 = 103.770 m^3

60. Express each of the rounded-off answers in problems 58 & 59 in scientific notation

62. Write the SI base unit of measurement for each of these quantities

a. time

b. length

c. temperature

d. mass

e. energy

f. amount of a substance

63. Order these units from smallest to largest: cm, um, km, mm, m, nm, dm, pm. Then give each measurement in terms of meters.

65. State the relationship between degrees Celsius and kelvins.

66. The melting point of silver is 962^0C. Express this temperature in kelvins.

68. Would the density of a person be the same on the surface of Earth and on the surface of the moon? Explain.

69. A shiny, cold-colored bar of metal weighing 57.3 grams has a volume of 4.7 cm^3. Is the bar of metal pure gold? (The density of gold is 19.3 g/cm^3).

70. Three balloons filled with neon, carbon dioxide, and hydrogen are released into the atmosphere Describe the movement of each balloon if their densities are 0.84 g/cm^3, 1.83 g/cm^3, and 0.084 g/cm^3 respectively. The density of air is 1.20 g/cm^3.