

Cumulative Review

77. a and b are heterogeneous; c is homogeneous
78. Answers will vary but could include, water is lost as steam and burned meat gives off carbon dioxide.
79. A compound has constant composition; the composition of a mixture can vary.
80. a heterogeneous mixture
81. $7.7 \times 10^{-5} \mu\text{m}$
82. 18.9 cm^{-3}
83. the piece of lead
84. a. $3.9 \times 10^{-5} \text{ kg}$
b. $7.84 \times 10^{-2} \text{ L}$
c. $8.30 \times 10^{-2} \text{ g}$
d. $9.7 \times 10^6 \text{ ng}$
85. a and b are exact
86. Mass remains the same; weight decreases because gravity on moon is less than gravity on earth.
87. 8.92 g/cm^{-3}
88. $154 \text{ g}, 1.54 \times 10^{-1} \text{ kg}$
89. a. 55 protons, 55 electrons
b. 47 protons, 46 electrons
c. 48 protons, 46 electrons
d. 34 protons, 36 electrons
90. Helium gas is less dense than the nitrogen gas and oxygen gas in the air.
91. Accuracy is a measure of how close the value is to the true value; precision is a measure of how close a series of measurements are to one another.
92. a
93. Neon-20 has 10 neutrons; neon-21 has 11 neutrons.
94. The value 35.453 amu is a weighted average. Its calculation is based on the percentage natural abundance of two isotopes, chlorine-35 and chlorine-37.