p. 7

5. $750\ kHz \times \frac{1000\ Hz}{1\ kHz} \times \frac{1\ MHz}{1\times10^{6}\ Hz} = .75\ MHz$

6. $5021\ cm \times \frac{1\ m}{100\ cm} \times \frac{1\ km}{1000\ m} = 5.02\times10^{-2}\ km$

7. $1\ leap\ year \times \frac{366\ days}{1\ leap\ year} \times \frac{24\ hrs}{1\ day} \times \frac{60\ min}{1\ hr} \times \frac{60\ s}{1\ min} = 3.16\times10^{7}\ s$

8. $\frac{5.30\ m}{s} \times \frac{1\ km}{1000\ m} \times \frac{60\ s}{1\ min} \times \frac{60\ min}{1\ hr} = 19.08\ km/hr$

p. 24.

33. look in your book

34. look in your book

36. a) centimeter b) millimeter c) kilometer

37. $\frac{60\ min.}{1\ hr}$

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50. a) g/cm^3

b) derived unit

53. answers vary

51. a) cm
b) mm
c) m
d) km

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67. a) $42.3\ cm \times \frac{1\ m}{100\ cm} = .423\ m$

b) $6.2\ pm \times \frac{1\ m}{1\times10^{12}\ pm} = 6.2\times10^{-12}\ m$

c) $21\ km \times \frac{1000\ m}{1\ km} = 2.1\times10^{4}\ m$

d) $.023\ mm \times \frac{1\ m}{1000\ mm} = 2.3\times10^{-5}\ m$

e) $214\ \mu m \times \frac{1\ m}{1\times10^{6}\ \mu m} = 2.14\times10^{-4}\ m$

f) $57\ nm \times \frac{1\ m}{1\times10^{9}\ nm} = 5.7\times10^{-8}\ m$

69. $11.6\ mg \times \frac{1\ g}{1000\ mg} = .0116\ g$ (4)

$1021\ mg \times \frac{1\ g}{1\times10^{6}\ mg} = .001021\ g$ (2)

$6\times10^{-6}\ kg \times \frac{1000\ g}{1\ kg} = .006\ g$ (3)

$.31\ mg \times \frac{1\ g}{1000\ mg} = .00031\ g$ (1)

74. $\frac{kg\cdot\frac{m}{s}}{m/s^{2}} = kg\cdot\frac{m}{s}\cdot\frac{s^{2}}{m} = kg\cdot s$ No

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89. $\frac{1\ long}{1} \times \frac{23.0\ medtons}{1.23\ longs} \times \frac{645\ shorts}{74.5\ medtons} = 162\ shorts$

91. $1.7\times10^{21}\ molecules \times \frac{s}{1\times10^{4}\ molecules} \times \frac{1\ hr}{3600\ s} \times \frac{1\ day}{24\ hr} \times \frac{1\ yr}{365\ days} =$

$5.39\times10^{7}\ years$

97. Please be resourceful and find the values needed

$\frac{(\text{distance from earth to sun})\ m}{1} \times \frac{1\ s}{m} \times \frac{1\ min}{60\ s} = 8.31\ min$

(meters; speed of light in m/s)

$\frac{(\text{distance from Jupiter to sun})\ m}{1} \times \frac{s}{m} \times \frac{1\ min.}{60\ s} = 43.2\ min.$

(speed of light)