Lab 2 Work

(3)

1L = 1 kg   1gal = 8.33 lbs

a) $\frac{8.33\ lbs}{} \Big| \frac{1\ Kg}{2.204\ lbs} \Big| \frac{1\ liter}{1\ kg} \Big| \frac{1000\ cm^3}{1\ liter} \Big| \frac{1\ in^3}{2.54^3 cm^3} =$

230.6387424 in^3/g

b) $\frac{1\ ft^3}{} \Big| \frac{12^3 in^3}{1\ ft^3} \Big| \frac{2.54^3 cm^3}{1\ in^3} \Big| \frac{1\ liter}{1000\ cm^3} \Big| \frac{1\ Kilogram}{1\ liter} \Big| \frac{2.204\ lbs}{1\ kg}$

62.41032989 lbs/ft^3

(4)

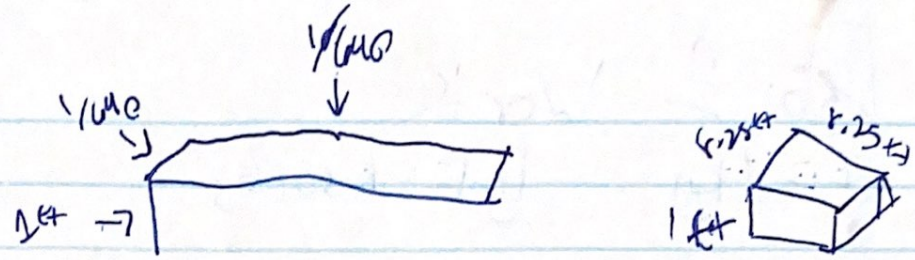
1Human = 140 lbs   Population = 7.0 billion H_2O Density = 997 kg/m

$\frac{7.0\ billion\ humans}{} \Big| \frac{140\ lbs}{1\ human} \Big| \frac{1\ kg}{2.204\ lbs} \Big| \frac{1\ liter}{1\ kg} \Big| \frac{1000\ cm^3}{1\ liter} \Big| \frac{1\ in^3}{2.54^3 cm^3}$

$\frac{1\ in^3}{2.54^3 cm^3} \Big| \frac{1\ ft^3}{12^3\ in} \Big| \frac{1\ mile^3}{5280^3 ft^3}$

.10667627 $miles^3$

5



a) $\frac{\frac{1}{640}\,mi^2 \mid 5280^2\,ft^2 \mid 12^2\,in^2}{\mid 1\,mi^2 \mid 1\,ft^2 \mid} = 260.640625\,in^2 \cdot 12\,in$

$= .7527168\,in^3 \mid \frac{1\,gal}{230.6387424}$

$= 32636.8213\,gallons$

b) $\frac{32636.8213\,gal \mid 8.33\,lbs \mid 1\,ton}{\mid 1\,gal \mid 2000\,lbs}$

$= 135.9296985$?