$\qquad$ Date: $\qquad$
[20 pt] 1. Perform each of the following multi-unit conversions. ALL answers should contain the proper number of Significant Figures and the proper Units. Show work to receive full credit.
(a) The speed of light is $3.8 \times 10^{8} \mathrm{~m} / \mathrm{sec}$. Convert this to miles/hour.

1(a)
(b) A new car in Europe is reported to get $1500 \mathrm{~km} / \mathrm{L}$ of gas. Convert this to miles/gallon. 1(b) $\qquad$
(c) The density of water is $1.0 \mathrm{~g} / \mathrm{mL}$ at room temperature. What is the density of water in lbs/gallon? $\qquad$
(d) 2.00 in. ${ }^{2}$ to $\mathrm{cm}^{2}$

1(d)
(e) Convert $250 \mathrm{~m}^{3}$ to $\mathrm{ft}^{3}$

1(e)
[20 pt] 2. Perform each of the following complex conversions. ALL answers should contain the proper number of Significant Figures and the proper Units. Show work to receive full credit.
(a) Water travels down a pipe at $2.0 \mathrm{~L} /$ minute, what is the flow in gallons/sec? 2(a)
(b) Calculate the number of milliliters of water in 2.0 cubic feet of water.

2(b) $\qquad$
(c) A space probe traveling at $27,000 \mathrm{mi} / \mathrm{hr}$. is traveling at what speed in $\mathrm{km} / \mathrm{sec}$ ? 2(c) $\qquad$
(d) Given the following conversion how many flarps are in 12 fleep? ( 2.4 flarps $=2$ glugs, 9 pluns $=27$ migs, 24 glugs $=1 \mathrm{mig}$, and 2 pluns $=17$ fleeps. $2(\mathrm{~d})$
(e) A stove provides $250 \mathrm{~J} / \mathrm{sec}$ of heat, what is the amount of heat provided in cal/hour? 2(e)

