

Homework 1.7 (1.07, 2.27)

1.107

Alcohol has specific gravity of 0.79
~~Solve~~ Calculate its density both in slugs/ft^3 and g/cm^3

$$Sg = 0.79$$

$$\rho = Sg \times \rho_{\text{water}} @ 4^\circ\text{C}$$

$$= 0.79 \times 1.94 \text{ slugs/ft}^3$$

$$= \underline{1.53 \text{ slugs/ft}^3}$$

$$1 \text{ slug/ft}^3 = 0.515 \text{ g/cm}^3$$

$$\rho = 1.53 \text{ slugs/ft}^3 \times \frac{0.515 \text{ g/cm}^3}{1 \text{ slug/ft}^3} = \underline{0.79 \text{ g/cm}^3}$$

2.27 Find the value of viscosity for Hydrogen at 40°F

$$\eta = 1.8 \times 10^{-4}$$

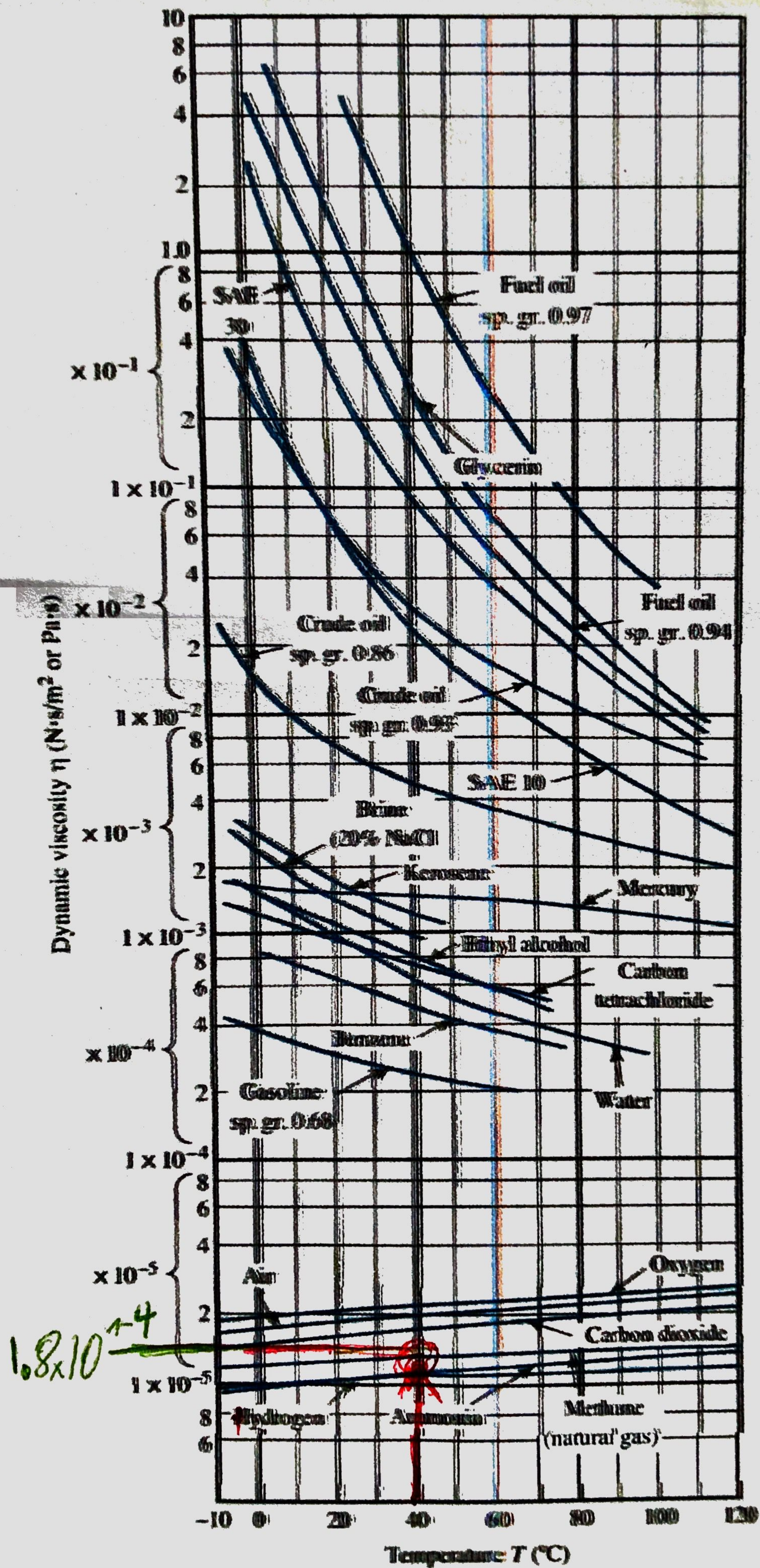


FIGURE D.1 Dynamic viscosity versus temperature—SI units.