

4.1-4.5 Quiz Review Packet

Solutions to #'s 37-42

$$37.) P = 14.7 e^{-0.21(2.3)} = \boxed{9.1 \text{ lbs/in}^2}$$

$$38.) \text{pH} = -\log_{10} [5.5 \cdot 10^{-1}]$$

$$\text{pH} = -\log_{10} (.55) \approx \boxed{0.26}$$

$$39.) D = 6e^{-0.04h}$$

$$\frac{4}{6} = \frac{6e^{-0.04h}}{6}$$

$$\frac{2}{3} = e^{-0.04h}$$

$$\ln \frac{2}{3} = \ln e^{-0.04h}$$

$$\ln \frac{2}{3} = -0.04h$$

$$\frac{\ln \frac{2}{3}}{-0.04} = \frac{-0.04h}{-0.04}$$

$$\boxed{10.14 \text{ hrs} = h}$$

$$40.) X = \text{Amt invested at } 9\%$$

$$7300 - X = \text{Amt invested at } 7\%$$

$$585 = .09X + .07(7300 - X)$$

$$585 = .09X + 511 - .07X$$

$$585 - 511 = .02X$$

$$\frac{74}{.02} = \frac{.02X}{.02}$$

$$\boxed{\$3700 = X \text{ (amt invested at } 9\%)}$$

$$41.) 9(40) + 6X = 7(40 + X)$$

$$360 + 6X = 280 + 7X$$

$$\boxed{80 = X \text{ (pounds of the } \$6 \text{ coffee)}}$$

$$42.) \quad 10x + 8x = 72$$

$$18x = 72$$

$$x = 4 \text{ hrs}$$