

$$1) \frac{150}{1790} = \frac{200}{1790} \times \frac{150}{1790} = \frac{4}{3}$$

$$2) a) \frac{3000}{25} = 120 \text{ gallon. Total cost} = 120 \times 2.20 = \underline{\underline{\$264}}$$

$$b) \text{Cost for 4 night} = 95 \times 4 = \underline{\underline{\$380}}$$

$$18\% \text{ Tax on } 380 \Rightarrow 380 + 0.18 \times 380 = 448.4 \approx \underline{\underline{\$448}}$$

$$c) 35 \times 2 = 70, \therefore \text{for 5 days} \Rightarrow 70 \times 5 = \underline{\underline{\$350}}$$

$$3) \frac{180}{2290} = \underline{\underline{7.9\%}}$$

$$4) \text{Income is } 940 \times 12 + 400 \times 12 + 5000 \times 1 = 21080$$

$$\text{Expense is } 30 \times 12 + 50 \times 52 + 5000 \times 3 + 200 \times 52 = 31720$$

$$\text{Cash flow is } 21080 - 31720 = \underline{\underline{-10640}}$$

$$5) A = 6000 \times (1 + 0.04 \times 1) = \$6420.00$$

$$6) A = 6800 \left(1 + \frac{0.03}{2}\right)^{2 \times 6} = \underline{\underline{\$8130.20}}$$

$$7) A = 5800 \left(1 + \frac{0.035}{4}\right)^{4 \times 10} = \underline{\underline{\$8218.07}}$$

$$8) a) 2000 e^{0.04 \times 2} = \underline{\underline{\$2166.57}}$$

$$b) 2000 e^{0.04t} = 16500$$

$$e^{0.04t} = \frac{16500}{2000}$$

$$e^{0.04t} = \frac{33}{4}$$

$$0.04t \ln(e) = \ln\left(\frac{33}{4}\right)$$

$$0.04t = \ln\left(\frac{33}{4}\right)$$

$$t = \frac{\ln\left(\frac{33}{4}\right)}{0.04}$$

$$t = \underline{\underline{52.76}}$$

$$c) 2000 e^{0.04t} = 4000$$

$$e^{0.04t} = \frac{4000}{2000}$$

$$e^{0.04t} = 2$$

$$0.04t \ln(e) = \ln(2)$$

$$0.04t = \ln(2)$$

$$t = \frac{\ln(2)}{0.04}$$

$$t = \underline{\underline{17.33}}$$

$$9) A = 3800 \left(1 + \frac{0.074}{12}\right)^{12 \times 7} = \underline{\underline{\$6368.80}}$$

$$10) P = \frac{\frac{0.04 \times 82000}{12}}{1 - \left(1 + \frac{0.04}{12}\right)^{-24}} = \underline{\underline{\$3560.84}}$$

$$11) PMT = \$578.13, A = \$184896.75, I = \underline{\underline{\$87896.75}}$$

$$12) a) P = \frac{\frac{0.0419 \times 12600}{12}}{1 - \left(1 + \frac{0.0419}{12}\right)^{-55 \times 12}} = \underline{\underline{\$24.08}}$$

$$b) A = 12600 \left(1 + \frac{0.0419}{12}\right)^{5.5 \times 12} = \underline{\underline{\$15859.13}}$$

$$c) \text{ interest} = \$15859.13 - \$12600.00 = \underline{\underline{\$3259.13}}$$

$$13) PMT = \frac{\frac{0.13 \times 2500}{12}}{1 + \left(1 + \frac{0.13}{12}\right)^{-5 \times 12}} = \underline{\underline{\$56.8827}}$$

$$14) PMT = \frac{\frac{0.043}{12} \times 333000}{1 - \left(1 + \frac{0.043}{12}\right)^{-33 \times 12}} = \underline{\underline{\$1575.39}}$$

$$15) P_0 = \frac{50000 (1 - (1 + 0.08)^{-20 \times 1})}{0.08} = \underline{\underline{\$490907.37}}$$

$$PMT = d$$

$$50000 = \frac{d (1 - (1 + 0.08)^{-25 \times 1})}{0.08}$$

$$\frac{50000}{10.67} = d$$

$$\underline{\underline{\$46839.3922}}$$

16) less than 90° is acute, therefore, 17° is acute

$$17) 8^2 = \underline{\underline{64 \text{ cm}^2}}$$

$$18) P = 2(a+b) = 2(44+48) = \underline{\underline{184}}$$

$$19) A = \pi r^2 = \frac{22}{7} \times 10^2 = \frac{22}{7} \times 100 = \underline{\underline{314.16 \text{ m}^2}}$$

$$20) V = \frac{4}{3} \pi r^3 = \frac{4}{3} \cdot \pi \cdot 15^3 = 14137.17 \text{ cm}^3$$

$$21) 218.552^\circ = 218^\circ 33' 7.2''$$

$$22) 35^\circ 47' 54'' = 35.83167^\circ$$

$$22) c = \sqrt{a^2 + b^2} = \sqrt{3^2 + 4^2} = \sqrt{9+16} = \sqrt{25} = \underline{\underline{5}}$$

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