Math 123-01
Summer 2025
Dr. Lily Yen

Quiz 4

Show all your work

Name: _____
Number: _____
Signature: _____
Score: ___/10

Problem 1: Solve for the indicated variable in each of the following.

a. Solve for t in $I = Prt$

If $I = Prt$, then divide both sides by Pr to get $r = I/(Pr)$.

b. Solve for x in $(2.35)^x = 17$. Provide accuracy to two decimal places.

If $(2.35)^x = 17$, then $\log\left((2.35)^x\right) = \log(17)$, so $x\log(2.35) = \log(17)$, so $x = \frac{\log(17)}{\log(2.35)} \approx 3.32$.

c. Solve for r in $A = P(1+r)^7$. The exponent is 7.

If $A = P(1+r)^7$, then $A/P = (1+r)^7$, so $(A/P)^{1/7} = 1+r$, so

$$r = (A/P)^{1/7} - 1$$

Score: /5

Problem 2: David's grandmother treated everyone in the family to the modern opera, *Flight*, in the spring. If the tickets including a 12 % tax came out to \$624.43, what was the price of opera tickets before tax?

Say the price (before taxes) was x. Then $1.12x = 624.43$, so $x = 624.43/1.12 \approx \$557.53$.

Score: /1

Problem 3: Janette's friend, Tino, purchased a recreational vehicle and financed \$7500 at \$550 per month for 20 months. Assuming the add-on interest method, what was the amount of interest paid over 20 months? Find the annual interest rate charged on the loan.

Tino paid a total of $20 \times \$550 = \$11\,000$. Since Tino borrowed \$7500, the total interest paid was \$3500.
To find the annual interest rate, $3500 \div 7500 \div 1.67 \approx 0.28$, so 28 %.

Score: /3

Problem 4: If *Chancellor's Capilano Financial* Visa card charges 21 % on unpaid balance, how much would it cost in finance charge to leave \$537 unpaid past the due date for 60 days? Hint: Credit card companies use 365 days a year. For the sake of simplicity, use simple interest.

$$\$537 \times \frac{0.21}{365} \times 60 \approx \$18.54$$

Score: /1