Math 123-02
Spring 2026
Dr. Lily Yen

Quiz Four

Show all your work

Name: _____
Number: _____
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Score: ___/10

Problem 1: Answer the questions. Write out steps for each; provide a two-decimal place accuracy when appropriate. One mark per part except two marks for the last part.

a. Convert the fraction *two and one fifth* into a percent.

220.0 %

$2\frac{1}{5} = 2.2 = 220\,\%$

b. Find 5 % of 60.

3.0

$0.05 \times 60 = 3.0$

c. Katharina wants to donate 12 stuffed animals out of a collection of 240. What percentage of her stuffed animals is left for herself?

95 %

$\frac{12}{240} = \frac{1}{20} = 0.05 = 5\,\%$, so what's left is $100\,\% - 5\,\% = 95\,\%$.

d. Janette bought a pair of snowshoes for \$97.86, including tax. Suppose BC has a 12 % combined taxes, find the ticket price of Janette's pair of snowshoes before taxes.

\$87.38

Say the price before taxes is $\$x$. Then $1.12x = 97.86$, so $x = \frac{97.86}{1.12} = 87.38$
Actually, due to rounding, \$87.37 is better: 5 % of \$87.37 is \$4.37, and 7 % of \$87.37 is \$6.12, and \$87.37 + \$4.37 + \$6.12 is exactly \$97.86.

Score: /4

Problem 2: Brian's family plans to attend *La Bohème* this spring at the QE theatre. For the family dinner before the concert, Brian's grandmother budgets \$400, to include food cost, taxes, and a 15 % tip. What is she going to pay for taxes and tip from the \$400 budgeted amount? Assume a 12 % service tax.

Since there is no sales tax on tips, if the cost of the food is x, then the total cost is $x + 0.12x + 0.15x = 1.27x$. Therefore $1.27x = \$400$, so $x = \frac{\$400}{1.27} = \$314.96$. The taxes and tip then are $\$400 - x = \$400 - \$314.96 = \$85.04$.

Score: /3

Problem 3: David's friend, Tom, purchased a yacht and financed \$60 000 at \$2800 per month for 30 months. Assuming the add-on interest method, what was the amount of interest paid over 30 months? Find the annual interest rate charged on the loan.

Tom paid a total of $30 \times \$2800 = \$84\,000$. Since Tom borrowed \$60 000, the total interest paid was \$24 000.
To find the annual interest rate, $24\,000 \div 60\,000 \div 2.5 = 0.16 = 16\,\%$.

Score: /3