

Math 123  
Fall 2022  
Dr. Lily Yen

# Quiz 3

Show all your work

Name: \_\_\_\_\_  
Number: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Score: \_\_\_\_/20

**Problem 1:** Answer the questions. Write out steps for each. One mark per part except the last part is two marks.

a. Convert the fraction *two and seven tenths* into a percent.

b. Find 88% of 460.

c. Brian wants to share 6 popsicles out of a box of 15 with his brothers. What percentage of his box of popsicles does he want to share?

d. If Janette finds in her closet 15% of her shoes are Toms slip-ons, and she counts 5 pairs of Toms, how many pairs of shoes does she have in her closet?

e. David's family travelled to Montreal for the International Jazz Festival in July this year. For the family dinner before a Wynton Marsalis concert, David's father paid \$223 including local service tax and a 15% tip. What was the dollar amount for the tip? Hint: Québec has a 15% service tax.

Score: /6

**Problem 2:** Solve for the indicated variable.

a. Solve for  $P$  in  $m = \frac{P+I}{n}$

b. Solve for  $x$  in  $(3.2)^x = 16$ . Provide accuracy to two decimal places.

c. Solve for  $r$  in  $A = P(1 + r)^{10}$

Score: /5

**Problem 3:** Janette's grandmother is offered by her bank three options for a \$6000 guaranteed investment certificate (GIC):

- a. 4.5% compounded monthly;
- b. 4.75% compounded annually; or
- c. 4.33% compounded weekly. (Use 52 weeks per year.)

Compute the interest after one year in each case and decide which option earns Janette's grandmother the most.

Score: /5

**Problem 4:** Janette's friend, Annika, purchased a bakery and financed \$85 000 at \$1137.28 per month for 7 years. Assuming the add-on interest method, what was the amount of interest paid over 7 years?

Score: /2

**Problem 5:** If *Canadian Express* credit card charges 22% on unpaid balance, how much would it cost in finance charge to leave \$757 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.

Score: /2