

Math 123-02
Fall 2024
Dr. Lily Yen

Quiz 1

Show all your work

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

Problem 1: Calculate the following:

$$\begin{array}{r} \text{a)} \quad 31 \\ \times 29 \\ \hline \end{array} \quad \begin{array}{r} \text{b)} \quad 51 \\ \times 49 \\ \hline \end{array} \quad \begin{array}{r} \text{c)} \quad 81 \\ \times 79 \\ \hline \end{array} \quad \begin{array}{r} \text{d)} \quad 101 \\ \times 99 \\ \hline \end{array}$$

Compare the answers with the numbers you multiplied. Look for a pattern to help you determine the following two products: 901×899 and $1\,000\,001 \times 999\,999$

Score: /4

Problem 2: In a farm with turkeys and sheep (at least one of each), suppose you count a total of 30 legs, how many of each kind may be on the farm?

Suppose in addition, you count 24 eyes in total from the turkeys and sheep, how many of each kind do you have?

Score: /4

Problem 3: Lucas and Florence just became friends with Kelly, and they want to know when her birthday is. Kelly gives them a list of ten possible dates:

January 2 15
June 3 9
August 3 12 21
October 2 9 21

Kelly then tells Lucas and Florence separately the month and the day of her birthday, respectively.

Lucas: I don't know when Kelly's birthday is, but I know that Florence doesn't know either.

Florence: At first I didn't know when Kelly's birthday is, but I know now.

Lucas: Then I also know when Kelly's birthday is.

When is Kelly's birthday?

Score: /2

/10