

NAME: _____ Score _____/10

Please **print** your name**Consider the following problem.**

Mary has \$3.00 in nickels, dimes, and quarters. If she has twice as many dimes as quarters and five more nickels than dimes, how many coins of each type does she have?

The first few steps in the analysis of the above problem are presented here. You are to fill in the blanks.

DO NOT SOLVE

Let x be the number of quarters.

Then $2x$ is the number of dimes

And $2x + 5$ is the number of nickels.

The value of the quarters is $0.25x$.

The value of the dimes is $0.1(2x) = 0.2x$.

The value of the nickels is $0.05(2x + 5)$.

The total value is $0.25x + 0.2x + 0.05(2x + 5) = 0.45x + 0.05(2x + 5) = 0.45x + 0.1x + 0.25 = 0.55x + 0.25$.

The total value is 3.00 .

We now have **two** expressions for the same quantity.

Therefore $0.55x + 0.25 = 3$ is the model for the problem.