

NAME: \_\_\_\_\_

Score \_\_\_\_\_/10

Please **print** your name**Fill in the blanks to complete the analysis of the following question**

A grocer mixes peanuts that cost \$2.49 per pound and walnuts that cost \$3.89 per pound to make 100 pounds of a mixture that costs \$3.19 per pound. How much of each kind of nut is put into the mixture?

**Analysis:**

Let  $x$  be the amount of peanuts to be put into the mixture.

Then  $100 - x$  is the amount of walnuts put into the mixture.

The cost of the peanuts in the mixture is  $2.49x$

The cost of the walnuts in the mixture is  $3.89(100 - x)$

The total cost of the final mixture is  $2.49x + 3.19(100 - x)$

The total cost of the final mixture is required to be  $(3.19)(100)$  or 319.

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

By **The Transitive Property of Equality**, these two expressions must be **equal**.

Therefore  $2.49x + 3.19(100 - x) = 319$ .

This is the model for the question and the answer to the question is obtained by **solving** the equation.

(details have been removed – you **should not** perform the solving process)

The solving process ends with:

$$x = 50$$

Therefore we conclude that the grocer should use **50** of peanuts and **50** pounds of walnuts.