Eggs & Molecules

look for the parallels

It's Saturday morning, and a farmer in Ashfield has just returned from the chicken coop with 150 eggs that she'll sell at the Amherst Farmers' Market. If she sells eggs by the dozen at $3/dozen, what is the maximum she will earn from eggs sales for the day?

$$(150 \text{ eggs}) \frac{1 \text{ dozen}}{12 \text{ eggs}} = 12.5 \text{ dozen}$$

there are 12 individual eggs in a dozen eggs

What is the mass of C in 1 mole of $C_9H_8O_4$?

$$(1 \text{ mol } C_9H_8O_4) \frac{9 \text{ mol C}}{1 \text{ mol } C_9H_8O_4} = 9 \text{ mol C}$$

there are 9 C atoms in 1 $C_9H_8O_4$ *molecule*

there are 9 moles C in 1 mole $C_9H_8O_4$

Next convert to dollars

$$(12.5 \text{ dozen}) \frac{\$ 3}{\text{dozen}} = \$ 37.50$$

the in-class question was harder in that you needed to round off to the nearest dozen, before converting to dollars

Next convert to grams

$$(9 \text{ mol C}) \frac{12.01 \text{ g C}}{1 \text{ mol C}} = 108.1 \text{ g C}$$