Teacher Answer Key

Case Study

1. The conversion factor correctly scales ingredient quantities, but it does not scale cooking time or pan size, and those have to be reconsidered by hand. Tripling the batter into one deep dish made the batter much thicker, so the surface finished long before heat could reach the raw center.

2. Keeping the same pan size keeps the batter at the original depth, and depth is what determines how long heat takes to reach the middle. Three pans hold triple the batter while each one still behaves like the tested original, so the recipe's stated time stays roughly accurate.

Multiple Choice

1. A

2. C

3. D

Matching

1-E, 2-C, 3-B, 4-A, 5-D

Fill-in-the-Blank

1) conversion factor, 2) tablespoons (or: grams), 3) pan

Short Answer (Sample Responses)

Q1: Divide the yield you want by the yield the recipe currently produces, which gives a single number. You then multiply every ingredient quantity in the recipe by that number, and converting awkward fractions into tablespoons or grams first keeps the multiplication simple.

Q2: Baking time depends on how far heat must travel to reach the center, which is set by the depth of the batter rather than the total amount. A doubled batch baked in two pans keeps the original depth and the original time, while forcing it into one pan burns the outside before the middle sets.

Q3: The recipe specifies edible portion, the trimmed fruit, but a store sells as purchased weight including the rind and core. Pineapple yields only about fifty percent, so roughly half of what is bought is discarded and the purchase amount must be found by dividing by the yield percentage.