

A-REI Accurately weighing pennies II

Task

In 1983 the composition of pennies in the United States was changed due, in part, to the rising cost of copper. Pennies minted after 1983 weigh 2.50 grams while the earlier copper pennies, from 1865 through 1982, weigh 3.11 grams. Pennies made between 1859 and 1864 had a different composition, with the same diameter, and weighed 4.67 grams.

- a. A roll of pennies contains 50 coins. If a roll of pennies weighs 145 grams (to the nearest hundredth of a gram), how many pennies of each type does the roll contain?
- b. If two rolls of pennies have the same weight, do they necessarily contain the same number of pennies of each of the three different weights? Explain.
- c. What is the answer to part (b) if the pennies instead weigh 2.5, 3.1 and 4.7 grams respectively?



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