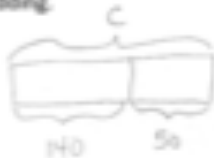


Name Jack Date _____

Directions: Estimate and then solve each problem. Model the problem with a tape diagram. Explain if your answer is reasonable.

1. For the bake sale, Connie baked 144 cookies. Esther baked 49 more cookies than Connie.
- a. About how many cookies did Connie and Esther bake? Estimate by rounding each number to the nearest ten before adding.

$$\begin{array}{r}
 144 \approx 140 \\
 49 \approx 50
 \end{array}$$


$$\begin{array}{r}
 140 \\
 + 50 \\
 \hline
 190
 \end{array}$$

Connie and Esther baked about 190 cookies.

- b. Exactly how many cookies did Connie and Esther bake?



$$\begin{array}{r}
 144 \\
 + 49 \\
 \hline
 193
 \end{array}$$

Connie and Esther baked 193 cookies.

- c. Is your answer reasonable? Compare your estimate from (a) to your answer from (b). Write a sentence to explain your reasoning.

yes, my answer is reasonable. I estimated that Connie and Esther baked 190 cookies. If I round my actual answer, 193, to the nearest tens place, I get 190.



2. Raffle tickets were sold for a school fundraiser to parents, teachers and students. 563 tickets were sold to teachers. 888 more tickets were sold to students than to teachers. 904 tickets were sold to parents. How many tickets were sold to parents, teachers, and students?

- a. About how many tickets were sold to parents, teachers, and students? Round each number to the nearest hundred to find your estimate.

$$563 \approx 600 \text{ to teachers}$$

$$888 \approx 900 + 600 = 1500 \text{ to students}$$

$$904 \approx 900 \text{ to parents}$$



About 3,000 tickets were sold to parents, teachers, and students.

- b. Exactly how many tickets were sold to parents, teachers, and students?

$$\begin{array}{r} 563 \\ 1,451 \\ + 904 \\ \hline 2,918 \end{array}$$



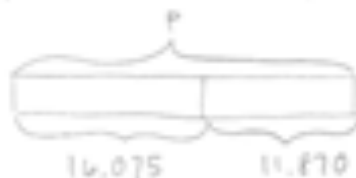
2,918 tickets were sold to parents, teachers, and students.

- c. Assess the reasonableness of your answer in (b). Use your estimate from (a) to explain.

My answer of 2,918 is reasonable because 2,918 rounded to the nearest thousand is 3,000 which was my estimate.

3. From 2010 to 2011, the population of Queens increased by 16,075. Brooklyn's population increased by 11,870 more than the population increase of Queens.

- a. Estimate the total combined population increase of Queens and Brooklyn from 2010 to 2011. (Round the addends to estimate.)



$$16,075 \approx 16,000$$

$$11,870 \approx 12,000$$

$$\underline{28,000}$$

The total combined population increase is about 28,000.