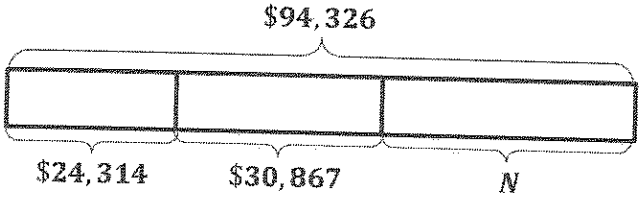
G4-M1-Lesson 16

1. In its three months of summer business, the local ice cream stand had a total of \$94,326 in sales. The first month's sales were \$24,314, and the second month's sales were \$30,867.



I label what I know.

a. Round each value to the nearest ten thousand to estimate the sales of the third month.

$24,314 \approx \$20,000$

$30,867 \approx \$30,000$

$94,326 \approx \$90,000$

$\$20,000 + \$30,000 = \$50,000$

$\$90,000 - \$50,000 = \$40,000$

The sales of the third month were about $\$40,000$.

To estimate the sales of the third month, I subtract the sum from two months from the total amount.

b. Find the exact amount of sales of the third month.

$$\begin{array}{r} {\scriptstyle 1\quad\quad 1} \\ 24,314 \\ +\ 30,867 \\ \hline 55,181 \end{array}$$

$$\begin{array}{r} {\scriptstyle 8\ \ 14\ \ 2\ \ 12} \\ 9\ \ 4,\ 3\ \ 2\ \ 6 \\ -\ 5\ \ 5,\ 1\ \ 8\ \ 1 \\ \hline 3\ \ 9,\ 1\ \ 4\ \ 5 \end{array}$$

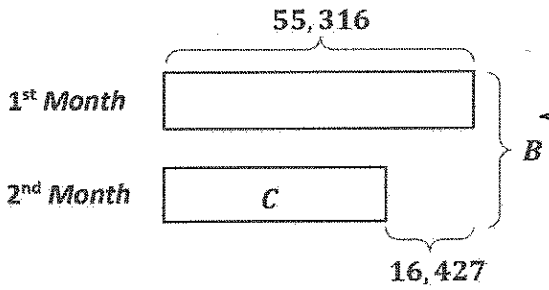
When I add the sales of the first and second month, I regroup on the line.

The exact amount of sales of the third month was $\$39,145$.

c. Use your answer from part (a) to explain why your answer in part (b) is reasonable.

My answer of $\$39,145$ *is reasonable because it is close to my estimate of* $\$40,000$. *The difference between the actual answer and my estimate is less than* $\$1,000$.

2. In the first month after its release, 55,316 copies of a best-selling book were sold. In the second month after its release, 16,427 fewer copies were sold. How many copies were sold in the first two months? Is your answer reasonable?



I draw a shorter tape to represent the second month since fewer books were sold in the second month.

Sample Student A Response:

$C = 55,316 - 16,427$

$C = 38,889$

$$\begin{array}{r} {}^{4}\cancel{5}\ {}^{14}\cancel{5},\ {}^{12}\cancel{3}\ {}^{10}\cancel{1}\ \cancel{6} \\ -\ 1\ 6,\ 4\ 2\ 7 \\ \hline 3\ 8,\ 8\ 8\ 9 \end{array}$$

I subtract to find the actual number of copies sold in the second month.

Then, I add the number of copies of the first and second month together to find the total.

$B = 55,316 + 38,889$

$B = 94,205$

$$\begin{array}{r} 5\ 5,\ 3\ 1\ 6 \\ +\ 3\ 8,\ 8\ 8\ 9 \\ \hline 9\ 4,\ 2\ 0\ 5 \end{array}$$

$55,316 \approx 60,000$

$16,427 \approx 20,000$

$60,000 - 20,000 = 40,000$

$60,000 + 40,000 = 100,000$

Sample Student B Response:

$B = 55,316 + 55,316 - 16,427$

$B = 110,632 - 16,427$

$B = 94,205$

To find the total number copies I can add two units of 55,316 and then subtract 16,427.

$$\begin{array}{r} 5\ 5,\ 3\ 1\ 6 \\ +\ 5\ 5,\ 3\ 1\ 6 \\ \hline 1\ 1\ 0,\ 6\ 3\ 2 \end{array}$$

$$\begin{array}{r} {}^{1}\cancel{1}\ {}^{1}\cancel{1}\ {}^{10}\cancel{0},\ 6\ {}^{2}\cancel{3}\ {}^{12}\cancel{2} \\ -\ \ 1\ 6,\ 4\ 2\ 7 \\ \hline 9\ 4,\ 2\ 0\ 5 \end{array}$$

$110,632 \approx 111,000$

$16,427 \approx 16,000$

$111,000 - 16,000 = 95,000$

94,205 copies were sold in the first two months.

I round to the nearest ten thousand. My answer is reasonable. It is about 6,000 less than my estimate. I would expect this difference because I rounded each number *up* to the nearest ten thousand.

I round to the nearest thousand. My answer is really close to my estimate! When I round to a smaller place value unit, I often get an estimate closer to the actual answer.