

Name \_\_\_\_\_

Date \_\_\_\_\_

1. There are 153 milliliters of juice in 1 carton. A 3-pack of juice boxes contains a total of 459 milliliters.  
 a. Estimate, and then find the total amount of juice in 1 carton and a 3-pack of juice boxes.

$$153 \text{ mL} + 459 \text{ mL} \approx \underline{200} + \underline{500} = \underline{600} \text{ mL}$$

$$153 \text{ mL} + 459 \text{ mL} = \underline{612 \text{ mL}}$$

$$\begin{array}{r} 153 \text{ mL} \\ + 459 \text{ mL} \\ \hline 612 \text{ mL} \end{array}$$

- b. Estimate, and then find the difference between the amount in 1 carton and a 3-pack of juice boxes.

$$459 \text{ mL} - 153 \text{ mL} \approx \underline{450} + \underline{150} = \underline{300} \text{ mL}$$

↙ should be subtraction

$$459 \text{ mL} - 153 \text{ mL} = \underline{306 \text{ mL}}$$

$$\begin{array}{r} 459 \text{ mL} \\ - 153 \text{ mL} \\ \hline 306 \text{ mL} \end{array}$$

- c. Are your answers reasonable? Why?

Both answers are reasonable because they are close to my estimates.

2. Mr. Williams owns gas stations. He sells 367 liters of gas in the morning, 300 liters of gas in the afternoon, and 219 liters of gas in the evening.

- a. Estimate, and then find the total amount of gas he sells in one day.

$$367 \text{ L} + 300 \text{ L} + 219 \text{ L}$$

$$\approx 400 \text{ L} + 300 \text{ L} + 200 \text{ L}$$

$$= \underline{900 \text{ L}}$$

$$\begin{array}{r} 367 \text{ L} \\ 300 \text{ L} \\ + 219 \text{ L} \\ \hline 886 \text{ L} \end{array}$$

- b. Estimate, and then find the difference between the amount of gas Mr. Williams sells in the morning and the amount he sells in the evening.

$$367 \text{ L} - 219 \text{ L}$$

$$\approx 400 \text{ L} - 200 \text{ L}$$

$$= \underline{200 \text{ L}}$$

$$\begin{array}{r} 367 \text{ L} \\ - 219 \text{ L} \\ \hline 148 \text{ L} \end{array}$$

3. The Blue Team runs a relay. The chart shows the time in minutes that each team member spent running.

Blue Team	Time in Minutes
Jen	5 minutes
Kristin	7 minutes
Lester	6 minutes
Evvy	8 minutes
Total	26 min

a. How many minutes does it take the Blue Team to run the relay?

$$5 + \overset{5}{\underbrace{7}_2} + \overset{5}{\underbrace{6}_1} + \overset{5}{\underbrace{8}_3} = 26 \text{ minutes}$$

b. It takes the Red Team 37 minutes to run the relay. Estimate, and then find the difference in time between the 2 teams.

$$\begin{aligned} 37 \text{ minutes} - 26 \text{ minutes} \\ \approx 40 \text{ minutes} - 30 \text{ minutes} \\ = 10 \text{ minutes} \end{aligned}$$

$$\begin{array}{r} 37 \text{ minutes} \\ - 26 \text{ minutes} \\ \hline 11 \text{ minutes} \end{array}$$

4. The lengths of 3 banners are shown to the right.

Banner A	437 cm
Banner B	457 cm
Banner C	332 cm

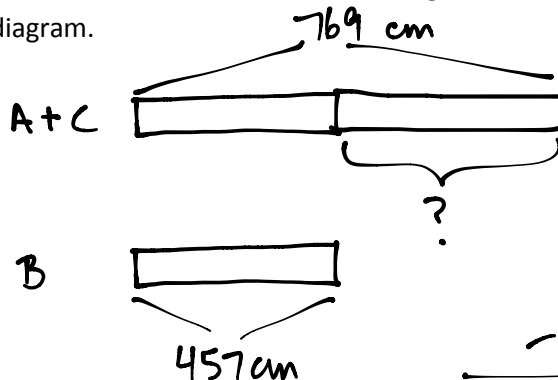
a. Estimate, and then find the total length of Banner A and Banner C.

$$\begin{aligned} 437 \text{ cm} + 332 \text{ cm} \\ \approx 450 \text{ cm} + 350 \text{ cm} \\ = 800 \text{ cm} \end{aligned}$$

$$\begin{array}{r} 437 \text{ cm} \\ + 332 \text{ cm} \\ \hline 769 \text{ cm} \end{array}$$

b. Estimate, and then find the difference in length between Banner B and the total length of Banner A and Banner C. Model the problem with a tape diagram.

$$\begin{aligned} 769 \text{ cm} - 457 \text{ cm} \\ \approx 800 \text{ cm} - 500 \text{ cm} \\ = 300 \text{ cm} \end{aligned}$$



$$\begin{array}{r} 769 \text{ cm} \\ - 457 \text{ cm} \\ \hline 312 \text{ cm} \end{array}$$