

4. Dr. Mann mixed 9.357 g of chemical A, 12.182 g of chemical B, and 7.516 g of chemical C to make 5 doses of medicine.

- a. About how much medicine did he make in grams? Estimate the amount of each chemical by rounding to the nearest tenth of a gram before finding the sum. Show all your thinking.

$$A \ 9.357g \approx 9.4g$$

$$B \ 12.182g \approx 12.2g$$

$$C \ 7.516g \approx 7.5g$$

$$\begin{array}{r} 9.4 \\ + 12.2 \\ + 7.5 \\ \hline 29.1 \end{array}$$

Dr. Mann made about 29.1 grams of medicine.

- b. Find the actual amount of medicine mixed by Dr. Mann. What is the difference between your estimate and the actual amount?

$$\begin{array}{r} 9.357 \\ + 12.182 \\ + 7.516 \\ \hline 29.055 \end{array}$$

$$\begin{array}{r} 29.100 \\ - 29.055 \\ \hline 00.045 \end{array}$$

The difference between the estimate & actual amount is 0.045 grams

- c. How many grams are in one dose of medicine? Explain your strategy for solving this problem.

$$\begin{array}{r} 9.685 \\ 3 \overline{) 29.055} \\ \underline{- 27} \phantom{0} \downarrow \downarrow \downarrow \\ 20 \phantom{0} \downarrow \downarrow \downarrow \\ \underline{- 18} \phantom{0} \downarrow \downarrow \downarrow \\ 25 \phantom{0} \downarrow \downarrow \downarrow \\ 15 \end{array}$$

I used the algorithm to find my answer.

There are 9.685 grams in 1 dose of medicine.

- d. Round the weight of one dose to the nearest gram.

$$9.685g \approx 10g$$

