

NAME: _____ DATE: _____

CONSERVATION OF MASS (YIELD EFFICIENCY)

Calculate and round the answers to 1 decimal place where applicable.

1. Harry poured 30g of sand into a measuring cylinder containing 30g of stones. The final volume in the measuring cylinder was 50g of sand and stones. Use the equation to calculate the efficiency yield of Harry's activity.

$$\text{efficiency} = \frac{\text{actual yield}}{\text{theoretical yield}} \times 100$$

$$= \frac{\boxed{} \text{ g}}{\boxed{} \text{ g}} \times 100$$

$$= \boxed{} \%$$

2. Dannykae poured 60g of flour into a measuring cylinder containing 40g of rice. The final volume in the measuring cylinder was 80g of flour and rice. Use the equation to calculate the efficiency yield of Dannykae's activity.

$$\text{efficiency} = \frac{\text{actual yield}}{\text{theoretical yield}} \times 100$$

$$= \frac{\boxed{} \text{ g}}{\boxed{} \text{ g}} \times 100$$

$$= \boxed{} \%$$

3. Clancy mixed 25cm³ of syrup with 25cm³ of water in a jug. The final volume of the mixture was 47cm³. Calculate the efficiency yield of the mixture.

$$\text{efficiency} = \frac{\text{actual yield}}{\text{theoretical yield}} \times 100$$

$$= \frac{\boxed{} \text{ cm}^3}{\boxed{} \text{ cm}^3} \times 100$$

$$= \boxed{} \%$$

4. Laddy mixed 135cm^3 of alcohol with 65cm^3 of water in a cup. The final volume of the mixture was 147cm^3 . Calculate the efficiency yield of the mixture.

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{}\text{cm}^3}{\boxed{}\text{cm}^3} \times 100 \\ &= \boxed{}\%\end{aligned}$$

5. Nandie mixed 35cm^3 of oil with 35cm^3 of water in a cup. The final volume of the mixture was 70cm^3 . Calculate the efficiency yield of the mixture.

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{}\text{cm}^3}{\boxed{}\text{cm}^3} \times 100 \\ &= \boxed{}\%\end{aligned}$$

6. Kiti put 22g (or grams) of sugar into 30cm^3 of water and stirred the mixture. She measured the volume of the final solution with a measuring cylinder and it was 32cm^3 . Calculate the efficiency yield of the solution.

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{}\text{cm}^3}{\boxed{}\text{cm}^3} \times 100 \\ &= \boxed{}\%\end{aligned}$$