

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.

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

$$= \frac{\boxed{\phantom{00}} \text{ g}}{\boxed{\phantom{00}} \text{ g}} \times 100$$

$$= \boxed{\phantom{00}} \%$$

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.

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

$$= \frac{\boxed{\phantom{00}} \text{ g}}{\boxed{\phantom{00}} \text{ g}} \times 100$$

$$= \boxed{\phantom{00}} \%$$

3. Clancy mixed 25cm<sup>3</sup> of syrup with 25cm<sup>3</sup> of water in a jug. The final volume of the mixture was 47cm<sup>3</sup>. Calculate the efficiency yield of the mixture.

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

$$= \frac{\boxed{\phantom{00}} \text{ cm}^3}{\boxed{\phantom{00}} \text{ cm}^3} \times 100$$

$$= \boxed{\phantom{00}} \%$$

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

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{\phantom{00}}\text{cm}^3}{\boxed{\phantom{00}}\text{cm}^3} \times 100 \\ &= \boxed{\phantom{00}}\%\end{aligned}$$

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

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{\phantom{00}}\text{cm}^3}{\boxed{\phantom{00}}\text{cm}^3} \times 100 \\ &= \boxed{\phantom{00}}\%\end{aligned}$$

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

$$\begin{aligned}\text{efficiency} &= \frac{\text{actual yield}}{\text{theoretical yield}} \times 100 \\ &= \frac{\boxed{\phantom{00}}\text{cm}^3}{\boxed{\phantom{00}}\text{cm}^3} \times 100 \\ &= \boxed{\phantom{00}}\%\end{aligned}$$