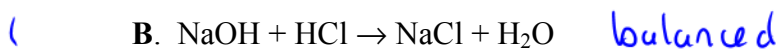
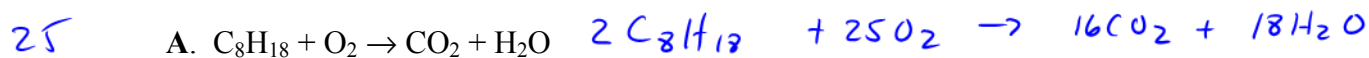


Stoichiometry 1

Name: Key

Score: _____

Consider the five **unbalanced** chemical reactions below. Imagine 10.00 mole of each of the following reactants is utilized. Rank these species from greatest to least number of moles of water produced in the reaction.



Greatest 1 B 2 E 3 D 4 C 5 A Least

Explain your reasoning and show all work below.

↳ Limiting reactant problem, so find # mole of H_2O produced from each reactant. Smallest result is #mol H_2O .

$$A. \begin{array}{l} \# \text{ mole } H_2O \\ \text{from } C_8H_{18} \end{array} = 10 \text{ mol} \times \frac{18 \text{ mole } H_2O}{2 \text{ mole } C_8H_{18}} = 90 \text{ mol } H_2O$$

$$\begin{array}{l} \# \text{ mole } H_2O \\ \text{from } O_2 \end{array} = 10 \text{ mol} \times \frac{18 \text{ mol } H_2O}{25 \text{ mol } O_2} = 7.2 \text{ mol } H_2O$$

- Since equal mole^{*} of starting material, the LR is the reactant with the Largest stoichiometric coefficient.
- The larger the stoichiometric coefficient, the less water is produced.

Circle the response that best describes your confidence in your answer above.

(Basically Guessed) 1 2 3 4 5 (Positive you get it)

* this condition is necessary to answer the problem this way!