## Astronomy Ranking Task: Chemical Reactions

## Exercise #2

**Description:** The following are all balanced chemical reaction equations.

- A. 4Fe +  $3O_2 \rightarrow 2Fe_2O_3$
- B.  $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$
- C.  $2H_2 + O_2 \rightarrow 2H_2O$
- D.  $4FeS_2 + 11O_2 \rightarrow 8SO_2 + 2Fe_2O_3$
- $E. \quad 2H_2S + 3O_2 \rightarrow 2SO_2 + 2H_2O$
- $F. \quad CS_2 + 3O_2 \rightarrow 2SO_2 + CO_2$

**A. Ranking instructions:** Rank the total number of hydrogen atoms in each reaction.

Ranking Order: Most 1 \_\_\_\_\_ 2 \_\_\_\_ 3 \_\_\_\_ 4 \_\_\_\_ 5 \_\_\_\_ 6 \_\_\_\_ Least

Or, all of the reactions involve the same total number of hydrogen atoms. \_\_\_\_\_ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

**B. Ranking instructions:** Rank the total number of carbon atoms in each reaction.

Ranking Order: Most 1 \_\_\_\_\_ 2 \_\_\_\_ 3 \_\_\_\_ 4 \_\_\_\_ 5 \_\_\_\_ 6 \_\_\_\_ Least

Or, all of the reactions involve the same total number of carbon atoms. \_\_\_\_\_ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

. Ranking instructions: Rank the total number of oxygen atoms in each reaction.
anking Order: Most 1 2 3 4 5 6 Least
r, all of the reactions involve the same total number of oxygen atoms (indicate with a neck mark)
arefully explain your reasoning for ranking this way:
. Ranking instructions: Rank the total number of sulfur atoms in each reaction.
anking Order: Most 1 2 3 4 5 6 Least
or, all of the reactions involve the same total number of sulfur atoms (indicate with a heck mark)
arefully explain your reasoning for ranking this way:
. Ranking instructions: Rank the total number of iron atoms in each reaction.
anking Order: Most 1 2 3 4 5 6 Least
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Or, all of the reactions involve the same total number of iron atoms. \_\_\_\_\_ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way: