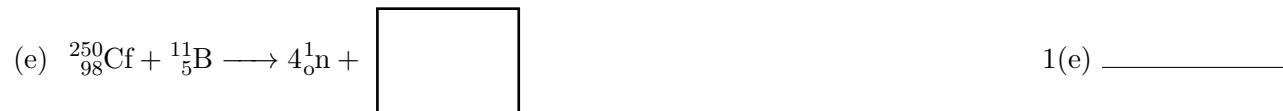


Name: \_\_\_\_\_

Date: \_\_\_\_\_

- [10 pt] 1. Complete the following reactions. In the answer blank identify whether the reaction best described as: (a) Fission, (b) Fusion or (c) Transmutation Reaction.



- [2 pt] 2. What is the driving force behind both Fission and Fusion reactions?

- [2 pt] 3. What is the difference between a "sub-critical mass" and a "critical" mass?

- [4 pt] 4. What is meant by the term nuclear chain reaction? Are all nuclear reactions, chain reactions?

- [3 pt] 5. What are the 3 main components of a nuclear reactor? Briefly define each.

## CHE 112 - Homework - Ch 20e

6. Opinion Question: Are you for or against the increased use of nuclear power? Explain.
- [4 pt] 7. Define Nuclear Fusion. Illustrate your definition by giving an example reaction (not from your notes or your book).
- [3 pt] 8. Briefly discuss one major problem with the use of nuclear fusion for power generation.
- [4 pt] 9. Define the term "Nuclear Transmutation". What are the two general methods for carrying out a nuclear transmutation?
- [8 pt] 10. Briefly (3-5 sentences each) discuss 2 practical uses for nuclear chemistry in the real world. Include a reaction in each discussion.