PSC-436 Quiz # 5

Name:

Date:

1. Identify each change below as a physical, chemical, or nuclear change.

For each, justify your answer.

a) During intermission at a hockey game, a zamboni sprays warm water onto the ice surface. This water freezes to form a slick new surface.

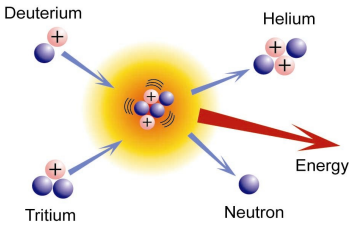
Type of change:

_____

How do you know what type of change it is? _____

_____

b)



Type of change:

_____

How do you know what type of change it is?

_____

_____

c) A Coleman stove heats up as the propane burns.

$$C_3H_8 + O_2 \longrightarrow CO_2 + H_2O$$

Type of change:

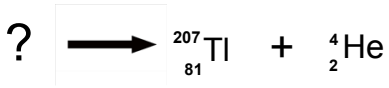
_____

How do you know what type of change it is?

_____

_____

2. Given the following equation for a nuclear disintegration:



a) What type of radiation is emitted during this decay process?

_____

b) Name the unknown element. Explain how you got your answer.

Unknown element: _____

Explanation: _____

_____

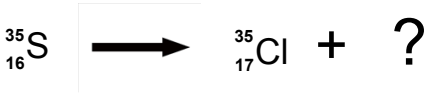
c) What is the mass number of this element? Explain your answer, based on the principle of conservation of mass.

Mass number: _____

Explanation: _____

_____

3. The equation for the nuclear disintegration of S-35 is the following:



a) What type of radiation is emitted during this decay process?

_____

b) Using the principle of conservation of mass, explain why the mass number remains unchanged.

_____

_____

c) Explain why the atomic number increases from 16 to 17.

_____

_____