Concept Items

22.1 The Structure of the Atom 1.

A star emits light from its core. One observer views the emission unobstructed while a second observer views the emission while obstructed by a cloud of hydrogen gas. Describe the difference between their observations.

a. Intensity of the light in the spectrum will increase.
b. Intensity of the light in the spectrum will decrease.
c. Frequencies will be absorbed from the spectrum.
d. Frequencies will be added to the spectrum.

2.

How does the orbital energy of a hydrogen-like atom change as it increases in atomic number?

a. The orbital energy will increase.
b. The orbital energy will decrease.
c. The orbital energy will remain constant.
d. The orbital energy will be halved.

22.4 Nuclear Fission and Fusion 3.

Aside from energy yield, why are nuclear fusion reactors more desirable than nuclear fission reactors?

a. Nuclear fusion reactors have a low installation cost.
b. Radioactive waste is greater for a fusion reactor.
c. Nuclear fusion reactors are easy to design and build.
d. A fusion reactor produces less radioactive waste.