

Name: (Answer Key)

Directions: Below is a multiple-choice question based on some of the material covered by the lectures thus far. Choose what you think to be the most correct response from the choices listed, **along with at least a one (1) sentence justification for your answer**. Alternate justifications include math calculations and labeled sketches. The question is worth 5 points: 2 for the letter response and 3 for the justification. The quiz is “open-book”, so may consult your textbook and notes, but please work individually. No collaborating with your peers is permitted during the quiz.

**WARNING:** Please **DO NOT** copy material word for word from sources such as textbooks, a peer’s notes, online references (i.e. Google or Wikipedia), etc in any responses to homework, quiz, or exam questions. Ideas should be expressed in your own words. Not only does this protect you from illegal acts of plagiarism and/or accusations of cheating, but it also aids your future studying by having ideas expressed in a way that you, personally, can best understand. If for some reason you **MUST** quote text from a source in your answer, properly reference your quote.

**Question:** Astronomer’s have measured the Doppler shift of thousands of distant galaxies and found that nearly every one has emission/absorption lines that are “redshifted” (shifted to longer wavelengths) compared to the same lines measured in the laboratory. This observation suggests what?

- A) Most galaxies are moving away from us.
- B) Most galaxies are cooling off at a similar rate.
- C) Most galaxies are moving toward us.
- D) Most galaxies emit mostly red light.

**Answer: A**