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# AST 10: Homework 1

- 1] Assuming that light travels at about 300000 km/sec, how long in km would a light-second be? A light-minute?
- 2] If your friend says "You look light-years younger" what, if anything, does that mean?
- 3] Looking at far-away objects gives us a good picture of what the Universe is like at this instant of time. True or false? Give reasons either way.
- 4] Are all galaxies spiral in shape?
- 5] If you bounce a radiowave off the head of your friend and it takes 5-millionth of a second to return to you, how far is your friend from you? (Use the information given in one of the problems above.)
- 6] What do your eyes have in common with methods used by astronomers to figure the distance to nearby stars.
- 7] Does the parallax method work better for relatively nearby objects or for very distant ones?
- 8] What is one specific place in this cosmic distance ladder diagram that standard candles are used? What does "standard candles" mean?

