1. (1 point) The sensitivity of a telescope is proportional to the \[ \text{______________________________} \] of the primary mirror.

2. (1 point) The resolving power of a telescope is proportional to the \[ \text{______________________________} \] of the primary mirror.

3. (1 point) A telescope’s resolving power measures its ability to see
   A. fainter sources
   B. more distant sources
   C. finer details in sources
   D. larger sources
   E. more rapidly moving sources

4. (1 point) In addition to optical radiation, what other type of radiation penetrates the atmosphere and is detectable from ground-based telescopes?

5. (2 points) How much more sensitive is a 10 centimeter telescope than the human eye? (Assume the diameter of the pupil of the eye to be 5 millimeters)

6. (2 points) How long will it take a planetary nebula shell moving at 20 kilometers per second to expand to a radius of one fourth a light year?

7. (2 points) If the dust cacoon around a protostar emits radiation most strongly at a wavelength of 30,000 nm (30 microns), what is the temperature of the dust?