

Review of Telescope Lectures  
Astronomy 25

- 1) Your eye is a small telescope of about \_\_\_\_\_ mm. aperture.
- 2) With large telescopes, the stars are more than just dots of light. (T/F)
- 3) An extended image (planet/galaxy etc.) is inverted each time its light reaches \_\_\_\_\_ in the telescope.
- 4) If this light is reflected off a mirror, \_\_\_\_\_ and \_\_\_\_\_ are swapped. (Look into a mirror for this one.)
- 5) Can the eye see an image at the telescope's prime focus?
- 6) The eyepiece takes this light and \_\_\_\_\_ it for the eye.
- 7) Terminology:
  - a) Objective-
  - b) Secondary-
  - c) Aperture-
  - d) Focal length-
  - e) Focus-
  - f) F-number (f/#)-
  - g) Magnification (Calculated by)-
  - h) Apparent field of view-
  - i) True field of view-
- 8) A refractor uses a \_\_\_\_\_ ; a reflector uses a \_\_\_\_\_.
- 9) Underline the true conclusions (assume same eyepiece throughout.)  
Larger objectives result in (brighter objects) (better resolution)  
(more field of view) (greater magnification) (dimmer objects seen.)
- 10) Which star is brighter, 7<sup>th</sup> magnitude or 10<sup>th</sup> magnitude?
- 11) The dimmest star we can see on a good night with excellent vision is \_\_\_\_\_ magnitude.

- 12) Which is the least important characteristic of a telescope system?
- 13) A design characteristic of an eyepiece includes its \_\_\_\_\_ field of view.
- 14) Which eyepiece results in greater magnification, 12mm or 30mm?
- 15) The true FOV you see is a ratio of \_\_\_\_\_ and \_\_\_\_\_.
- 16) Magnification is a ratio of \_\_\_\_\_ and \_\_\_\_\_.
- 17) Chromatic aberration is a problem with which kind of telescope?
- 18) Coma is a problem with (long / short) focal length telescopes.
- 19) Spherical aberration can be "focused" out. (T/F)
- 20) The worst aberration that no telescope escapes is poor \_\_\_\_\_.
- 21) Types of telescopes:
- a) Straight-tube, "Captain Kidd" type, is a \_\_\_\_\_ telescope.
- b) Telescope with parabolic mirror at one end and eyepiece up near the other end, sticking out the side. (Invented by an Englishman.)  
This is a \_\_\_\_\_ telescope
- c) Telescope by a French inventor that uses a secondary mirror to achieve a long focal length in a short body. Light emerges through a hole in the mirror.  
This is a \_\_\_\_\_ telescope.
- d) A "correcting plate" invented by a German makes telescope c) into a \_\_\_\_\_ - \_\_\_\_\_ telescope.
- e) A "correcting lens" invented by a Russian makes telescope c) into a \_\_\_\_\_ - \_\_\_\_\_ telescope. (This plate or lens is to correct spherical aberrations inherent in telescope c.)
- 22) Which of the above becomes size-limited first?