

- 1) D What is the major disadvantage of a pinhole camera?
- A) It cannot focus an object which is at infinity.
  - B) It cannot focus an object which is very close to the pinhole.
  - C) It cannot take color photographs.
  - D) It cannot admit very much light to the film.
  - E) It cannot use modern CCD electronic film.
- 2) B Images viewed through a microscope (in only room light) are very dark because:
- A) The objects are too close to the first lens.
  - B) The images are very highly magnified.
  - C) The focal length of the second lens is very short.
  - D) The final image appears to be at infinity.
  - E) Bacteria naturally absorb most of the light hitting them.
- 3) C Which of the following will *not* help an astronomer photograph a very dim star?
- A) She could use a longer time exposure.
  - B) She could use more sensitive electronics to detect the light.
  - C) She could use a primary lens with a longer focal length.
  - D) She could use a primary lens with a larger radius.
  - E) She could wait for clearer skies.
- 4) C If the focal length of the primary lens of a refracting telescope is 60 cm, and the focal length of its eyepiece is 6 mm, then the magnification of the telescope is:
- A) 10 times
  - B) 60 times
  - C) 100 times
  - D) 600 times
  - E) 1000 times
- 5) E Chromatic aberration is a lens problem that refers to the fact that:
- A) Light of different colors have slightly different indexes of refraction.
  - B) Single lenses focus light of different colors at slightly different radii.
  - C) It takes multiple glass lenses to correct for spurious “rainbows” in optical equipment.
  - D) None of the above (A – C).
  - E) All of the above (A – C).