

Astronomy 4 - Introduction to Astronomy
Module 3/3b: Quiz 1

1. The Rosette nebula is a low-density cloud of Hydrogen gas, being heated by newly formed stars. If you take a spectrum of the nebula, what type of spectrum would you expect to observe?
a. a continuous spectrum **b. an emission line spectrum** c. an absorption line spectrum
d. all of the above e. none of the above

2. The Doppler effect is used to determine
a. the distance of an object b. the total velocity of an object
c. the velocity along the line of sight d. the velocity across the line of sight
e. none of the above

3. As molecules rotate and vibrate, they emit
a. radio waves b. infrared waves c. x-rays **d. a and b** e. a and c

4. Supernovae are stars that explode in high-energy events. In what part of the electromagnetic spectrum would one most like to study supernovae?
a. x-rays b. ultraviolet light c. visible light d. infrared light e. the radio

5. X-ray astronomy must be undertaken
a. from the Earth's surface b. from a mountaintop c. from a balloon or airplane
d. from space e. within 1 light-year of the object under study

6. A refracting telescope uses what to focus light?
a. a curved lens b. a flat lens c. a curved mirror d. a flat mirror
e. none of the above

7. Since the Hubble Space Telescope is a visible light telescope, why is it in space?
a. to avoid clouds **b. to avoid turbulence in the atmosphere** c. to see x-rays
d. to make it more expensive e. to give NASA a purpose

8. Why do radio telescopes have poor resolving power?
a. they are too large b. radio waves have short wavelengths
c. radio waves have long wavelengths d. their surfaces are made of metal not glass
e. they are poorly made compared to optical telescopes

9. Why would radio astronomers put identical small telescopes at different locations?
a. to combine them and form an array/interferometer b. to obtain high resolution
c. it is cheaper than building one very large telescope
d. all of the above e. none of the above

10. An observatory located near to us here in Sacramento is
a. Lick b. Palomar c. Mauna Kea d. Mt. Wilson e. Las Campanas