

Vasquez High School -- Earth Science -- Exam #8 -- Chapter 28 -- 60 points

Write TRUE if the statement is true OR write the word that substitutes for the underlined word that would make it true. Writing false only earns partial credit. Three points each.

- _____ 1) The farthest thing one can see with the naked human eye is the Milky Way galaxy.
- _____ 2) Galaxies are classified into three groups because of their sizes.
- _____ 3) Another name for heat energy is infrared energy.
- _____ 4) The frequency of sound is higher than normal if the ambulance is coming toward us.
- _____ 5) The unit of distance even greater than the light-year is the magnitude.
- _____ 6) It is generally believed that stars are born within great clouds called nebulas.
- _____ 7) The hottest stars we know of are colored white.
- _____ 8) A star is born when it begins the process of the Doppler Effect.
- _____ 9) Betelgeuse is 427 light-years from Earth. That means it takes light 427 years to get here.
- _____ 10) The closest star to Earth is called the Sun.

Short Answer/Fill-in Section. Be clear and complete here. Three points apiece.

- 11) There are three solid evidences we have for an expanding universe. They are:
- a) _____
- b) _____
- c) _____
- 12) In about how much time will our sun begin its next phase? _____ What will that next phase be? _____ What will its last phase be? _____
- 13) The Milky Way galaxy is said to have about _____ stars. It is about how many light-years across? _____ What's at its center? _____
- 14) Explain the difference between apparent magnitude and absolute magnitude: _____
- _____
- _____

15) The three types of galaxies are: _____, _____, and _____.

16) For fifteen points, draw the electromagnetic spectrum. Include all ten energies and all six labels.

17) For ten points, draw the Hertsprung-Russell (H-R) diagram. Include labels and numbers on axes, where the Sun should be found, and areas for blue supergiants, red supergiants, red giants, white dwarfs and the Main Sequence.



Multiple Choice Section. Write the letter that best answers each example. Three points each.

_____ 18) Luminosity is another word for

- a) brightness b) temperature c) density d) distance

_____ 19) A star of which mass below is most likely to become a supernova?

- a) 1/5 solar mass c) 5 solar masses
b) 1 solar mass d) 25 solar masses

- _____ 20) A neutron star is composed mainly of what material?
- a) gas and dust b) hydrogen c) gravity d) neutrons
- _____ 21) Which constellation, made of seven stars, points your way to the North Star?
- a) The Pleiades b) The Big Dipper c) Orion d) Sirius
- _____ 22) The constellation Cassiopeia is easy to identify in the sky because it looks like
- a) a rectangular box. c) a large X in the sky.
b) a loose letter W. d) a straight line of stars.
- _____ 23) Which of these is NOT an example of microwave energy?
- a) radar b) sonar c) ovens d) x-rays
- _____ 24) The astronomical unit is about
- a) the distance from the Moon to the Earth.
b) about 93,000 miles
c) the distance from the Sun to the Earth.
d) about six trillion miles.
- _____ 25) We call a black hole that name because
- a) it is a literally a hole in the universe.
b) it is so dense that even light cannot escape.
c) it has no gravity whatsoever.
d) it has no energy whatsoever.

26) Short Essay. For six points describe the two possible life cycles for stars. Include what makes them different and the different stages each one undergoes from their births to their end.

27) Extra Credit: What was the name of the 13th zodiacal constellation? _____