

## Assessment

**Chapter Test A****Chapter: Stars, Galaxies, and the Universe****MATCHING**

In the space provided, write the letter of the definition that best matches the term or phrase.

- |                                      |   |
|--------------------------------------|---|
| _____ 1. constellation               | a. object at the center of some galaxies that produces energy at a high rate.                               |
| _____ 2. elliptical galaxy           | b. a neutron star that emits radio waves  |
| _____ 3. the big bang                | c. a shrinking, spinning region of space with a central concentration of matter                             |
| _____ 4. cosmic background radiation | d. a group of stars in a recognizable pattern   |
| _____ 5. spiral galaxy               | e. evidence of the big bang   |
| _____ 6. irregular galaxy            | f. a star group elongated in shape  |
| _____ 7. quasar                      | g. a star group of no particular shape; rich in dust and gas  |
| _____ 8. pulsar                      | h. a large explosion that causes a star to suddenly become bright.  |
| _____ 9. nova                        | i. the theory that all matter and energy exploded from a small compressed volume about 14 billion years ago |
| _____ 10. protostar                  | j. a star group with a nucleus of bright stars and arms containing young stars.                             |

**MULTIPLE CHOICE**

In the space provided, write the letter of the answer choice that best completes each statement or best answers each question.

- \_\_\_\_\_ 11. What is a light-year?
- the distance light travels in a year
  - the speed of light in a year
  - the time it takes to travel to a star
  - the distance to the sun
- \_\_\_\_\_ 12. White dwarfs
- are small, hot, and dim stars, about the size of Earth.
  - are small, hot, and dim stars, about the size of the sun.
  - are large, bright, and luminous.
  - may not exist.

**Chapter Test A continued**

- \_\_\_\_\_ 13. Why do stars seem to move in the night sky?
- because the stars revolve around Earth
  - because of parallax
  - because Earth is standing still
  - because Earth is in motion
- \_\_\_\_\_ 14. What makes up most of the universe?
- known elements
  - black holes
  - dark energy and dark matter
  - planets
- \_\_\_\_\_ 15. By analyzing the light that a star emits, astronomers can determine
- its motion.
  - its composition and temperature.
  - the constellation that it belongs.
  - the galaxy that it belongs to.
- \_\_\_\_\_ 16. How does a main-sequence star generate energy?
- by nuclear fission, converting hydrogen to helium in its core
  - by nuclear fusion, converting helium to carbon in its core
  - by nuclear fission, converting helium to iron in its core
  - by nuclear fusion, converting hydrogen to helium in its core
- \_\_\_\_\_ 17. Supernovas are
- thousands of times less violent than novas.
  - thousands of times more violent than novas.
  - hundreds of times more violent than novas.
  - hundreds of times less violent than novas.
- \_\_\_\_\_ 18. What is apparent magnitude?
- the brightness of a star as it appears from Earth
  - the true brightness of a star
  - the brightness of the moon as it appears from Earth
  - the numerical size of a star
- \_\_\_\_\_ 19. What is absolute magnitude?
- the brightness of the moon as it appears from Earth
  - the brightness of a star as it appears from Earth
  - the true brightness of a star
  - the numerical size of a star
- \_\_\_\_\_ 20. What is important about Hubble's discovery of the red shift in the spectra of galaxies?
- It suggests that the universe is expanding.
  - It suggests that the universe is contracting.
  - It proves the big bang theory.
  - It suggests the existence of black holes.

## Assessment

**Chapter Test B****Chapter: Stars, Galaxies, and the Universe****MATCHING**

In the space provided, write the letter of the definition that best matches the term or phrase.

- |                                      |   |
|--------------------------------------|---|
| _____ 1. quasar                      | a. a shrinking region of space flattened into a disk with a central concentration of matter |
| _____ 2. cosmic background radiation | b. an object that produces energy at a high rate at the center of some galaxies             |
| _____ 3. nova                        | c. a neutron star that emits radio waves  |
| _____ 4. protostar                   | d. possible evidence of the big bang  |
| _____ 5. pulsar                      | e. a large, bright explosion of a white dwarf caused by pressure building up                |

**MULTIPLE CHOICE**

In the space provided, write the letter of the answer choice that best completes each statement or best answers each question.

- \_\_\_\_\_ 6. What are constellations?
- recognizable groups of galaxies and the regions of space surrounding them
  - apparently fixed, recognizable patterns of stars and the regions of space around them
  - patterns of stars and galaxies that can be identified with color spectra
  - groups of stars that can only be distinguished with special equipment
- \_\_\_\_\_ 7. A main-sequence star generates energy through nuclear fusion as
- hydrogen fuses into carbon in the core of the star.
  - helium fuses into iron in the core of the star.
  - hydrogen fuses into helium in the core of the star.
  - hydrogen is created in the core of the star.
- \_\_\_\_\_ 8. Astronomers determine the chemical elements and temperatures of stars by analyzing
- starlight using a spectrograph, which is an instrument that separates light into different colors.
  - the light that is absorbed by gases compared to a reference spectrum.
  - radio waves and the sources of those waves.
  - starlight using the H-R diagram, which is a graph of the luminosities and temperatures of stars.

**Chapter Test B *continued***

- \_\_\_\_\_ 9. What can parallax be used to calculate?
- the composition of stars based on the spectra of their starlight
  - the temperature on the surface of a star within 1,000 light-years of Earth
  - the distance to a star within 1,000 light-years of Earth
  - the distance to extremely distant stars.
- \_\_\_\_\_ 10. Hubble's discovery that there is red shift in the spectra of galaxies led to an understanding that the universe is
- contracting.
  - extremely old.
  - extremely cold.
  - expanding.
- \_\_\_\_\_ 11. What is an irregular galaxy?
- a galaxy with no particular shape
  - a galaxy shaped like a stretched-out football
  - a galaxy that has vast areas without stars
  - a galaxy that has high mass and is rich in dust and gas
- \_\_\_\_\_ 12. An elliptical galaxy contains few
- old stars, is rich in dust and gas, and is elongated.
  - old stars, has little dust and gas, and is elongated.
  - young stars, has little dust and gas, and is elongated.
  - young stars, is rich in dust and gas, and is elongated.
- \_\_\_\_\_ 13. A spiral galaxy has a nucleus of
- dim stars and has spiral arms consisting of billions of young stars.
  - bright stars and has spiral arms consisting of billions of young stars.
  - bright stars and has spiral arms consisting of billions of old stars.
  - dim stars and has spiral arms consisting of billions of old stars.
- \_\_\_\_\_ 14. Scientists currently believe that most of the universe is made of
- black holes and neutron stars.
  - cosmic background radiation.
  - the same atoms that make up everything on Earth.
  - dark matter and dark energy.
- \_\_\_\_\_ 15. Approximately how many kilometers are there in a light-year?
- 46 billion
  - 46 million
  - 6 billion
  - 46 trillion