Name _____ Class_____Date_____

Skills Worksheet

Chapter 18 Review

USING KEY TERMS

1. Use each of the following terms in a separate sentence: *year, month, day, astronomy, electromagnetic spectrum, constellation,* and *altitude.*

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For each pair of terms, explain how the meanings of the terms differ.

2. *reflecting telescope* and *refracting telescope*

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3. *zenith* and *horizon*

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4. *year* and *light-year*

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UNDERSTANDING KEY IDEAS

Multiple Choice

_____ 5. Which of the following answer choices lists types of electromagnetic radiation from longest wavelength to shortest wavelength?
a. radio waves, ultraviolet light, infrared light
b. infrared light, microwaves, X rays
c. X rays, ultraviolet light, gamma rays
d. microwaves, infrared light, visible light

_____ 6. The length of a day is based on the amount of time that
a. Earth takes to orbit the sun one time.
b. Earth takes to rotate once on its axis.
c. the moon takes to orbit Earth one time.
d. the moon takes to rotate once on its axis.

_____ 7. Which of the following statements about X rays and radio waves from objects in space is true?
a. Both types of radiation can be observed by using the same telescope.
b. Separate telescopes are needed to observe each type of radiation, but both telescopes can be on Earth.
c. Separate telescopes are needed to observe each type of radiation, but both telescopes must be in space.
d. Separate telescopes are needed to observe each type of radiation, but only one of the telescopes must be in space.

_____ 8. According to _____, Earth is at the center of the universe.
a. the Ptolemaic theory
b. Copernicus's theory
c. Galileo's theory
d. None of the above

_____ 9. Which scientist was one of the first scientists to successfully use a telescope to observe the night sky?
a. Brahe
b. Galileo
c. Hubble
d. Kepler

_____ 10. Astronomers divide the sky into
a. galaxies.
b. constellations.
c. zeniths.
d. phases.

_____ 11. _____ determines which stars you see in the sky.
a. Your latitude
b. The time of year
c. The time of night
d. All of the above

_____ 12. The altitude of an object in the sky is the object's angular distance
a. above the horizon.
b. from the north celestial pole.
c. from the zenith.
d. from the prime meridian.

_____ 13. Right ascension is a measure of how far east an object in the sky is from
a. the observer.
b. the vernal equinox.
c. the moon.
d. Venus.

_____ 14. Telescopes that work on Earth's surface include all of the following EXCEPT
a. radio telescopes.
b. refracting telescopes.
c. X-ray telescopes.
d. reflecting telescopes.

Short Answer

15. Explain how right ascension and declination are similar to latitude and longitude.

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16. How does a reflecting telescope work?

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CRITICAL THINKING

17. **Concept Mapping** Use the following terms to create a concept map: *right ascension, declination, celestial sphere, degrees, hours, celestial equator,* and *vernal equinox*.

18. **Making Inferences** Why was seeing objects in the sky easier for people in ancient cultures than it is for most people today? What tools help modern people study objects in space in greater detail than was possible in the past?

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19. **Making Inferences** Because many forms of radiation from space do not penetrate Earth's atmosphere, astronomers' ability to detect this radiation is limited. But how does the protection of the atmosphere benefit humans?

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20. **Analyzing Ideas** Explain why the Ptolemaic theory seems logical based on daily observations of the rising and setting of the sun.

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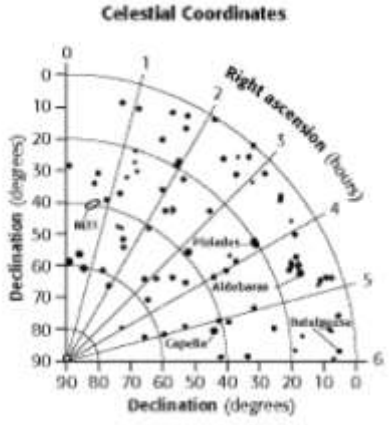
INTERPRETING GRAPHICS

Use the sky map below to answer the questions that follow. (Example: The star Aldebaran is located at about 4 h, 30 min right ascension, 16º declination.)



21. What object is located near 5 h, 55 min right ascension, and 7° declination?

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22. What are the celestial coordinates for the Andromeda galaxy (M31)? Round off the right ascension to the nearest half-hour.

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