

Mid Term Prep-Stars and Galaxies

1. Light and other forms of electromagnetic radiation are given off by stars using energy released during

- A) nuclear fusion B) conduction
C) convection D) radioactive decay

2. The reaction below represents an energy-producing process.



The reaction represents how energy is produced

- A) in the Sun by fusion
B) when water condenses in Earth's atmosphere
C) from the movement of crustal plates
D) during nuclear decay
3. The "fuel" of the sun is
- A) hydrogen
B) helium
C) oil and various hydrocarbons
D) oxygen
4. Which star is cooler and less luminous than the Sun?
- A) *Proxima Centauri* B) *Pollux*
C) *Rigel* D) *40 Eridani B*
5. Which two stars are most similar in luminosity?
- A) *Betelgeuse* and *Barnard's Star*
B) *Procyon B* and *Proxima Centauri*
C) *Polaris* and the Sun
D) *Alpha Centauri* and *Sirius*
6. Which statement describes the general relationship between the temperature and the luminosity of main sequence stars?
- A) As temperature decreases, luminosity increases.
B) As temperature decreases, luminosity remains the same.
C) As temperature increases, luminosity increases.
D) As temperature increases, luminosity remains the same.

7. Compared with our Sun, the star *Betelgeuse* is

- A) smaller, hotter, and less luminous
B) smaller, cooler, and more luminous
C) larger, hotter, and less luminous
D) larger, cooler, and more luminous

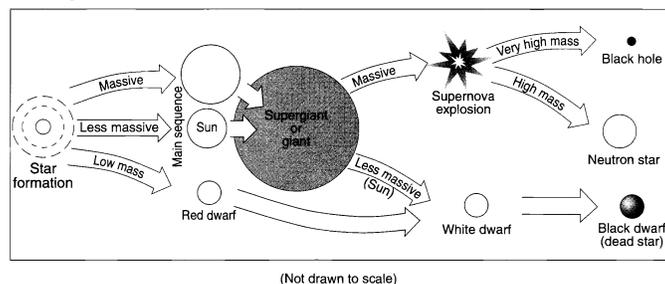
8. Which list shows stars in order of increasing temperature?

- A) *Barnard's Star*, *Polaris*, *Sirius*, *Rigel*
B) *Aldebaran*, the *Sun*, *Rigel*, *Procyon B*
C) *Rigel*, *Polaris*, *Aldebaran*, *Barnard's Star*
D) *Procyon B*, *Alpha Centauri*, *Polaris*, *Betelgeuse*

9. Which two stars have the most similar luminosity and temperature?

- A) *Betelgeuse* and *Barnard's Star*
B) *Rigel* and *Betelgeuse*
C) *Alpha Centauri* and the Sun
D) *Sirius* and *Procyon B*

10. The diagram below represents possible stages in the life cycle of stars.



Which star has the greatest probability of producing a supernova explosion?

- A) *Barnard's Star* B) *Betelgeuse*
C) *Procyon B* D) *Sun*

11. The probable fate of our sun is

- A) to expand as a red giant, undergo a nova outburst and end as a white dwarf
B) to shrink to a white dwarf then eventually expand to a red giant
C) become hotter and expand into a blue supergiant
D) to become a black hole

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12. When a star less massive than our sun consumes all of its nuclear fuel it will then become a
- A) white dwarf B) nova
C) supernova D) black hole
13. What factor from the choices below determines whether a star will evolve into a white dwarf, a neutron star, or a black hole?
- A) mass
B) percentage of helium
C) percentage of carbon
D) apparent brightness
14. Which sequence correctly lists the relative sizes from smallest to largest?
- A) our solar system, universe, Milky Way Galaxy
B) our solar system, Milky Way Galaxy, universe
C) Milky Way Galaxy, our solar system, universe
D) Milky Way Galaxy, universe, our solar system
15. The Milky Way galaxy is best described as
- A) a type of solar system
B) a constellation visible to everyone on Earth
C) a region in space between the orbits of Mars and Jupiter
D) a spiral-shaped formation composed of billions of stars
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Answer Key
Regents Preparation-Stars and Galaxies

1. A
 2. A
 3. A
 4. A
 5. B
 6. C
 7. D
 8. A
 9. C
 10. B
 11. A
 12. A
 13. A
 14. B
 15. D
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