

NAME: _____

DATE: _____

PHYS 1040 Homework #6

1. What is the Maunder Minimum and why is it of interest?
2. How do astronomers measure a star's temperature?
3. What is a neutron star? What is a white dwarf?
4. Would it be easier to measure the parallax of a star from Pluto? Why or why not?
5. Why are binary stars useful to astronomers?
6. Arcturus is about half as hot (T) as the Sun but is about 100 times more luminous (L). What is the radius of Arcturus compared to the Sun?
7. What heats a protostar?

8. What determines when a star becomes a main-sequence star?
9. What determines how long a star stays on the main sequence?
10. A star has a parallax of 0.04 arcseconds. What is its distance?
- (a) 250 parsecs
 - (b) 25 parsecs
 - (c) 40 parsecs
 - (d) 4 parsecs
 - (e) 4 light-years
11. A star that is cool and very luminous must have
- (a) a very low velocity
 - (b) a very small mass
 - (c) a very small radius
 - (d) a very large radius
 - (e) a very great distance
12. If mass is added to a white dwarf star,
- (a) its radius increases
 - (b) its radius decreases
 - (c) its density increases
 - (d) it may exceed the Chandrasekhar limit and collapse
 - (e) it may produce novae
 - (f) all of the above except (a)
13. Which of the following has a radius (linear size) closest to that of a neutron star?
- (a) a gymnasium
 - (b) a small city
 - (c) a basketball
 - (d) the Earth
 - (e) the Sun
14. A planetary nebula is
- (a) another term for the disk of gas around a young star
 - (b) the cloud from which protostars form
 - (c) a shell of gas ejected from a star late in its life
 - (d) what is left when a white dwarf star explodes as a supernova
 - (e) the remnants of the explosion created by the collapse of the iron core in a massive star.