

### Test 3 review

Energy in the Sun is generated by what?

The proton-proton chain in the Sun converts hydrogen to helium with some leftover energy, what happens to this energy?

What is a positron? What is a hydrogen nucleus? What is a neutrino?

What are the two distinct regions of energy transport in our Sun?

What are sunspots? How are they created?

What is the 11 year solar cycle?

How is measuring the proper motion of the Star useful in understand stars?

Light spreads out like an inverse square law...

Apparent brightness versus absolute brightness

How do you measure the surface temperature of a star?

How do you measure the radius of a star?

How do you measure the mass of a star?

What is an H-R diagram?

Where do hot stars live on the diagram?

Cold stars?

Spectroscopic parallax?

How do we study hot interstellar gas that is mostly comprised of hydrogen? (Emission nebula)

What are reflection nebula and how do they work?

How do we measure cold neutral hydrogen gas?

What is electron spin?

What usually creates hot interstellar medium (UV emitting gas)?

What is the temperature and density of Molecular clouds?

How do we observe molecular clouds?

How is cosmic dust good at blocking visible light?

If it was 10x larger, what wavelength of light would it block?

10x smaller?

Where do the heavier elements in the ISM come from?

Where do the lighter elements come from?

Stars on the main sequence are doing what?

What is hydrostatic equilibrium?

What single physical property dictates the evolution of a star?

Stars are considered a main sequence star when...

Stars move off the main sequence when...

The reason for stars to puff up into a red giant is?

Why will our Sun not burn any element heavier than helium and have a carbon ash core?

What is a planetary nebula/ how are they created?

What are some physical characteristics of a white dwarf?

What allows heavier stars to continue fusion on heavier elements?

What happens when a star starts fusing silicon into iron?

What is quantum degeneracy pressure?

How does it support stars that don't have fusion?

Type Ia versus type II supernova, what is the difference?

Globular cluster versus open cluster

What is the Main sequence turn off?

What is a standard candle?

What are Cepheid variable stars and how do we use them to measure distance?

How do we use Type Ia supernova to measure distance?

What are neutron stars and how are they formed?

Describe their characteristics

How we observe neutron stars?

How are black holes created? (yo mama so fat... is not an acceptable answer)

How do we measure black holes?

Describe Einstein's theory of gravity.

What is gravitational lensing.

What happens to light leaving a black hole before the Schwarzschild radius?

After the Schwarzschild radius?