

1. A star has a parallax angle of 0.050 arc second, what is its distance in parsecs? What is this distance in AU?

2. The brightness of the sun as measured from Earth is 1414 W/m^2 . What is its luminosity? (distance = 1 AU)

3. Which astronomical unit would be most appropriate for the following distances?
 - a) Distance to Andromeda _____ c) Distance to Alpha Centauri _____
 - b) Distance to moon _____ d) Distance to Jupiter _____

4. Use the table below to answer the following questions.

Star	Absolute Magnitude	Apparent Magnitude	Distance from Earth (light-years)
Sun	+4.8	-26.72	
Sirius (in Canis Major)	+1.4	-1.46	8.6
Canopus (in Carina)	-2.5	-0.72	74
Rigel Kentaurus (Alpha Centauri) in Centaurus	+4.4	-0.27	4.3
Arcturus (in Bootes)	+0.2	-0.04	34
Vega (in Lyra)	+0.6	+0.03	25
Capella (in Auriga)	+0.4	+0.08	41
Rigel (in Orion)	-8.1	+0.12	900
Procyon (in Canis Minor)	+2.8	+0.38	11

- a) What is the difference between a star's absolute and apparent magnitude?

- b) Which star in the table looks dimmest in our night sky? If this same star were to replace the sun in our solar system, how would it compare to how our sun looks now?

- c) Alpha Centauri is not a very bright star (absolute magnitude 4.4), but it shines brighter in our sky than does an incredibly bright star like Rigel (absolute magnitude -8.1). Explain how this is possible.

