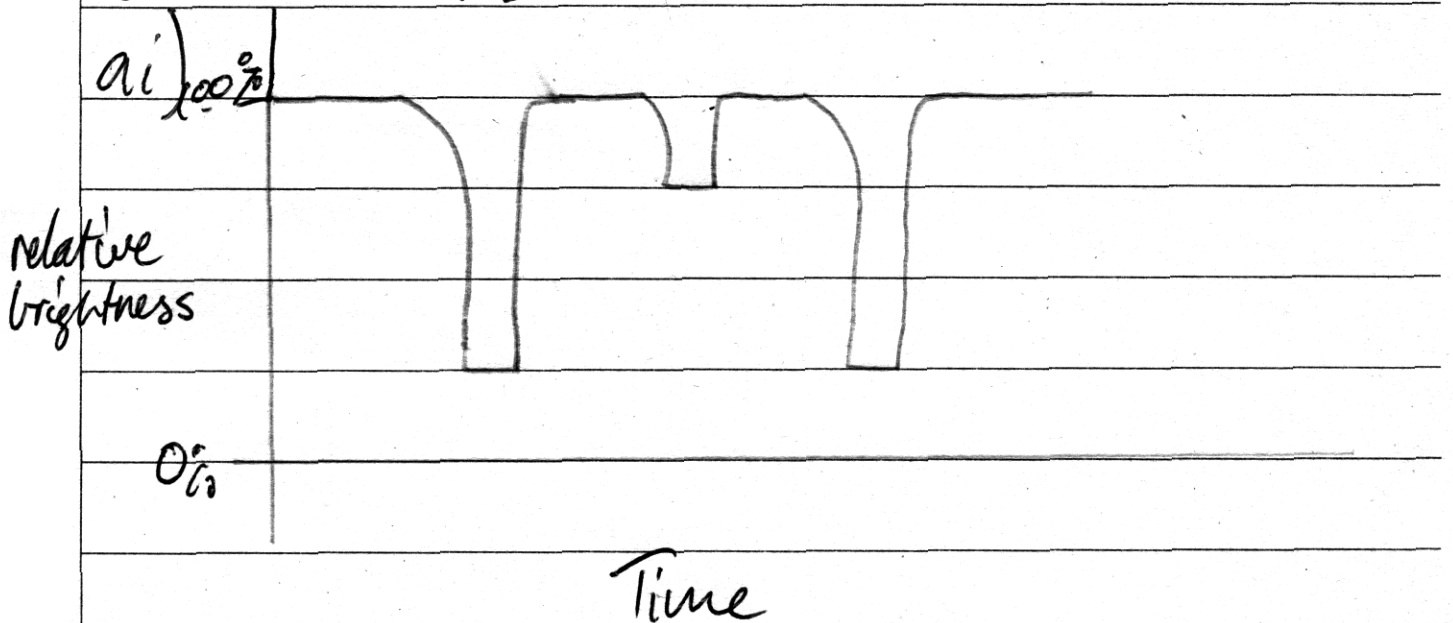


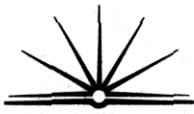
Section 2

Q. 30.



The observation made by astronomers to identify a star is done by observing the changes in brightness.

aii) Binary stars are important in determining stellar masses as <sup>apparent and absolute</sup> the size <sup>and brightness</sup> and brightness of the star can ~~can~~ reveal its ~~weight~~ mass. A binary star systems mass can be determined ~~by~~ ~~or~~ calculated by examining brightness, luminosity, size and colour of the star, <sup>and</sup> by comparing the star two stars. and how the eclipse each other

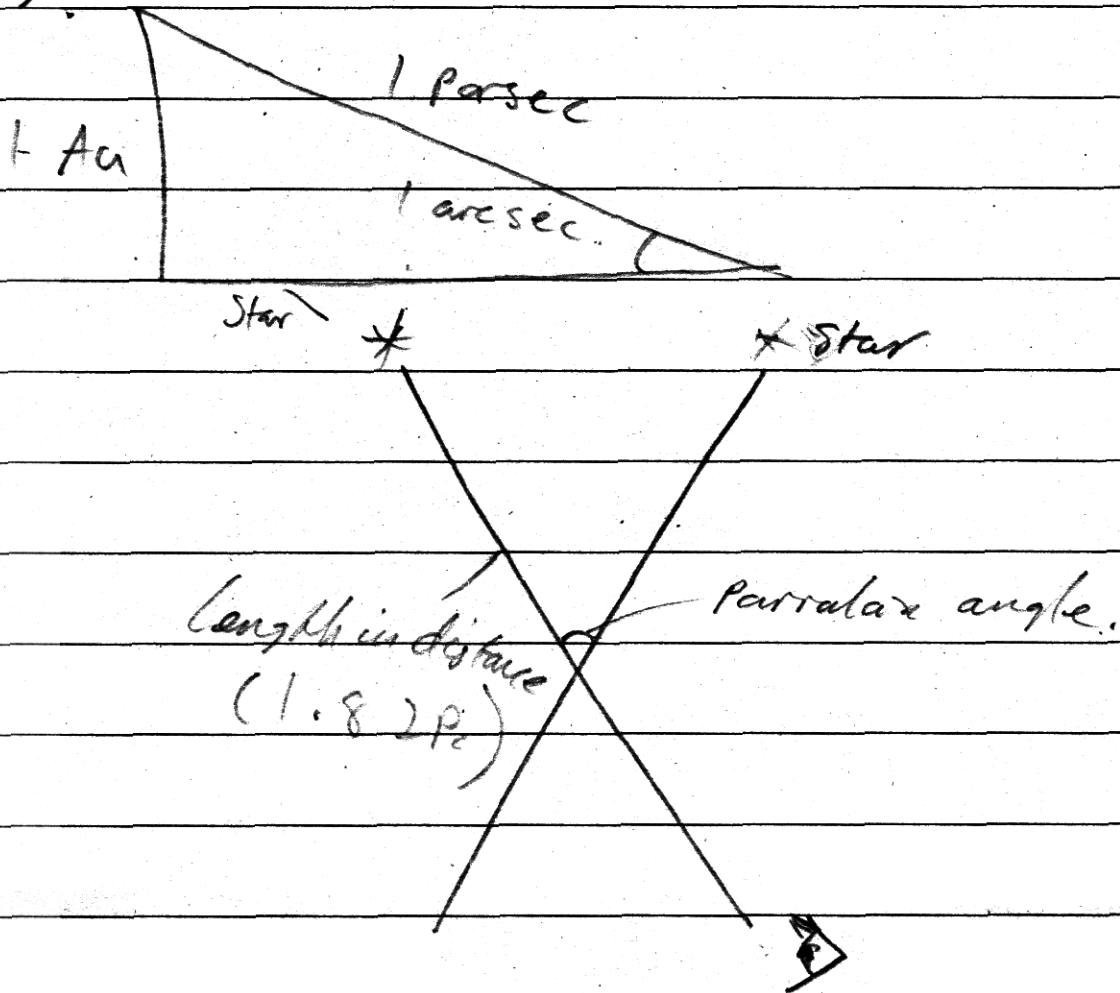


b i) Proxima Centauri. Calande 21185

b ii)  ~~$100 \times \frac{1.75}{1.75} = 100$~~   $100 \frac{(m_B - m_A)}{5}$   
 ~~$= 100 \times 1.75 \times 90 = 100 \frac{(11.9 - 1.75)}{5}$~~   
 ~~$1.75 \times 90 = 180 \frac{(11.01 - 10.37)}{5}$~~

\* Ross 154 is 0.240 (sdp) brighter than Proxima Centauri.

iii)



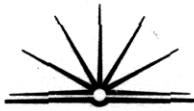


C) ~~S - white dwarf~~ ~~B - red dwarf~~  
R - Supernova P - blue giant  
~~S - white dwarf~~

White Dwarf will be found at "S" because it is a star that has ~~just~~ just been born and maturing.

Cii) ~~A white dwarf~~ "White Dwarf" does not continue to shrink in size because it is still maturing and still has plenty of helium and hydrogen left in it and it will only get bigger.

Ciii) Nuclear fusion - This is happening ~~is~~ ~~is~~ due to the burning of hydrogen and continuing to release a large amount of heat and it is ~~still~~ still and continuing to happen for a very long time.



30d), Adaptive optics has improved resolution ~~of~~ and sensitivity of ground based astronomy in many ways it has helped with ~~the~~ overcoming "furbalance" in the atmosphere and also improved sensitivity by being more effective in its use and ~~effective~~ efficient.

The hubble telescope has helped with ~~the~~ ~~observing~~ ~~extrating~~ observation ~~in~~ in space by ~~clearing~~ helping with clarity images and also help magnify images as well.