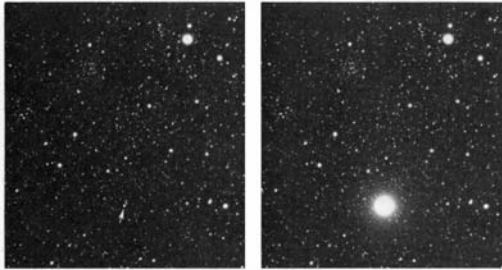
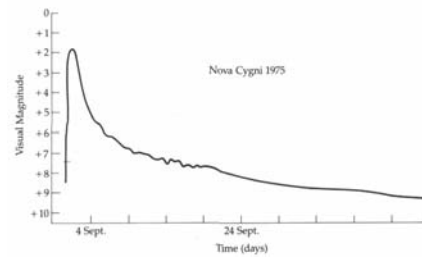




- The farther away a star is the fainter it appears. If you move 50 times farther away from a star it will appear 2500 times fainter. How will the magnitude of the star have changed? (2 marks)
- The bright star Algol (which literally means "Demon Star") actually consists of two stars orbiting each other every 2.867 days. During this time Algol is eclipsed by a fainter companion and dims from magnitude 2.1 to magnitude 3.4 in a little over 2 hours and then brightens again just as quickly. At its faintest, how much less light do we receive from Algol? Express this as a brightness factor. (2 marks)
- During a nova outburst a star suddenly brightens dramatically. One of the most spectacular in recent years was the appearance of Nova Cygni 1975. On the night of August 29, 1975 a new star (hence the name "nova") appeared in the constellation Cygnus. It brightened from magnitude 18 to a very bright magnitude 1.8 in a matter of several days. By what factor did this star increase its energy output? (2 marks)



Before and after pictures of Nova Cygni 1975



Graph showing change in magnitude of Nova Cygni 1975