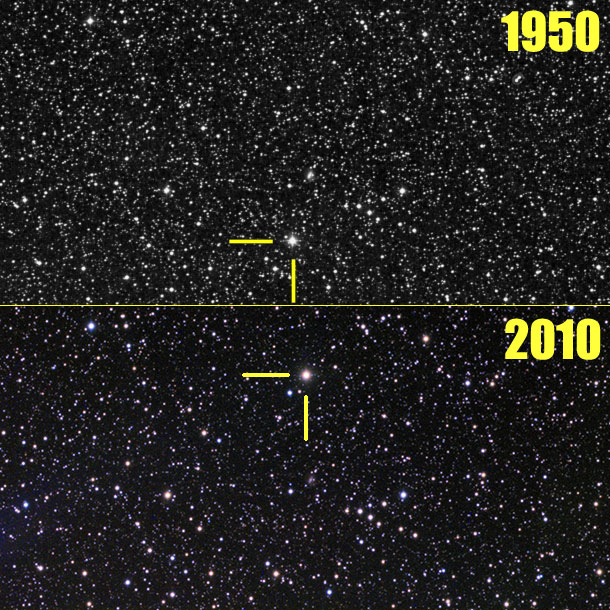
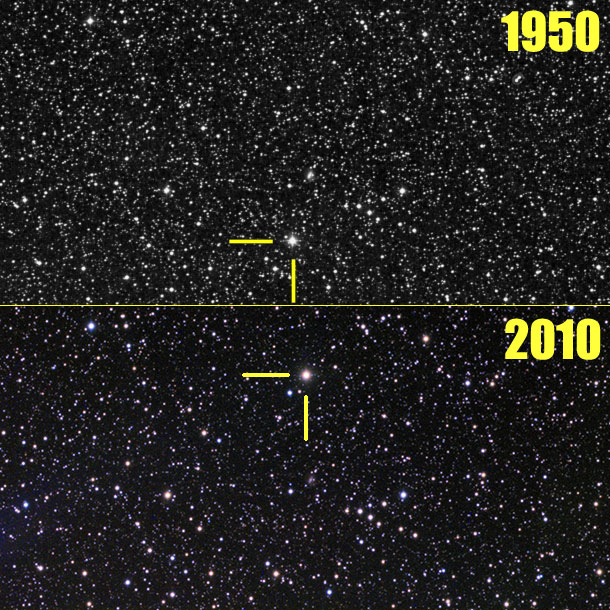
**Barnard’s Star**

The two images shown of Barnard’s star were taken in 1950 and 2010, showing the change in the star’s position due to proper motion during the intervening 60 years. In the images, each centimeter of motion corresponds to 133 seconds of arc.Use the images to determine the proper motion of Barnard’s star in units of arc seconds per year.

[](http://www.perseus.gr/Astro-Star-Dwarf-Barnard-2010.htm)

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Distance that Barnard’s star traveled in 60 years: in cm:\_\_\_\_\_\_\_\_\_\_ in arc sec:\_\_\_\_\_\_\_\_\_\_\_\_\_

Proper Motion in arc seconds per year \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Given a parallax of 0.545 arc seconds, what is the distance to Barnard’s star? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_