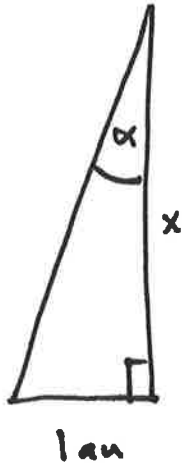


ASG v1

Ex 22.1 (Stellar parallax)



$$\alpha = \frac{0.742}{2} \text{ arc seconds}$$

$$\alpha = 1.8 \times 10^{-6} \text{ radians}$$

$$\tan \alpha = \frac{1}{x}$$

$$x = \frac{1}{\tan \alpha} = \boxed{556,000 \text{ au}}$$

$$\text{or } \boxed{8.8 \text{ light years}}$$

If  $\alpha$ -centauri was in earth's orbital plane, then it would appear to move back & forth, rather than in an ellipse.

The precision of this method (parallax) is limited by the precision with which the angle  $\alpha$  can be measured.