

44. Assuming the line passes through the origin, its slope is $0.40c/(5.3 \times 10^9 \text{ ly})$. Then,

$$T = \frac{1}{H} = \frac{1}{\text{slope}} = \frac{5.3 \times 10^9 \text{ ly}}{0.40c} = \frac{5.3 \times 10^9 \text{ y}}{0.40} \approx 13 \times 10^9 \text{ y} .$$