



Distance from Earth to center of Galaxy is

$$L = 8000 \text{ pc} = 8000 \text{ pc} * \frac{3.1 \times 10^{16} \text{ m}}{\text{pc}} = 2.48 \times 10^{20} \text{ m}$$

Corbell travels in ship at high speed on round trip. We are told the duration of the trip is

$$\Delta t_{\text{Earth}} = 3 \times 10^6 \text{ yr}$$

$$\Delta t_{\text{ship}} = 150 \text{ yr}$$

And therefore we can estimate the ship's speed:

$$\Delta t_{\text{Earth}} = \gamma \Delta t_{\text{ship}}$$

$$\rightarrow \gamma = \frac{\Delta t_{\text{Earth}}}{\Delta t_{\text{ship}}} = \frac{3 \times 10^6}{150} = 20,000$$

$$\rightarrow v = c \sqrt{1 - \frac{1}{\gamma^2}} \approx c \left( 1 - \frac{1}{2(20,000)^2} \right) \\ = (0.99999999875) c$$

At this speed, the trip should take according to people on Earth

$$\Delta t_{\text{Earth}} \approx \frac{2L}{c} \approx \frac{5 \times 10^{20} \text{ m}}{3 \times 10^8 \text{ s}} = 1.6 \times 10^{12} \text{ s}$$

$$\approx 50,000 \text{ years}$$

Fifty thousand years is way less than three million years.

So something about this story does not add up...