3.4

We can find the velocity of the ship in the same way as problem 2.2

$$\Delta x = \gamma(v)\left(\Delta x' + v\,\Delta t'\right)$$

$$10\,c = \gamma(v)\left(0 + 5\cdot v\right)$$

$$\Rightarrow \quad v = \frac{10\,c}{\sqrt{10^2 + 5^2}} = 0.89\,c$$

The trip takes from Earth prespective:

$$T = 2\cdot\frac{10\times c\times yr}{0.89\times c} = 22.4\ yr.$$