~14. $\begin{cases} x = 2\cos^3 t \\ y = 2\sin^3 t \end{cases} \quad 0 \le t \le \frac{\pi}{2}$

$$l = \int_0^{\frac{\pi}{2}} \sqrt{(x_t')^2 + (y_t')^2}\, dt = \int_0^{\frac{\pi}{2}} \sqrt{(6\sin^2 t \cos t)^2 + (6\cos^2 t \sin t)^2}\, dt =$$

$$= 6\int_0^{\frac{\pi}{2}} \sqrt{\sin^4 t \cos^2 t + \cos^4 t \sin^2 t}\, dt = 6\int_0^{\frac{\pi}{2}} \sqrt{\sin^2 t \cos^2 t (\sin^2 t + \cos^2 t)}\, dt =$$

$$= 6\int_0^{\frac{\pi}{2}} \sin t \cos t\, dt = 3\int_0^{\frac{\pi}{2}} \sin 2t\, dt = -\frac{3}{2}\cos 2t \Big|_0^{\frac{\pi}{2}} = \frac{3}{2} + \frac{3}{2} = 3.$$

Ответ: 3.