Zadatak 56. Svaka točka krivulje je oblika $T(5\cos t, 3\sin t)$, $t \in \mathbf{R}$. Odredi jednadžbu te krivulje.

Rješenje.

$$T(5\cos t, 3\sin t), \quad t \in \mathbf{R}$$

$$x = 5\cos t \quad /^2$$
$$y = 3\sin t \quad /^2$$
$$x^2 = 25\cos^2 t \quad / \cdot 9$$
$$y^2 = 9\sin^2 t \quad / \cdot 25$$
$$\left.\begin{aligned} 9x^2 &= 225\cos^2 t \\ 25y^2 &= 225\sin^2 t \end{aligned}\right\} +$$
$$9x^2 + 25y^2 = 225(\cos^2 t + \sin^2 t)$$
$$9x^2 + 25y^2 = 225 \quad / : 225$$
$$\boxed{\frac{x^2}{25} + \frac{y^2}{9} = 1} \quad \text{(elipsa)}$$