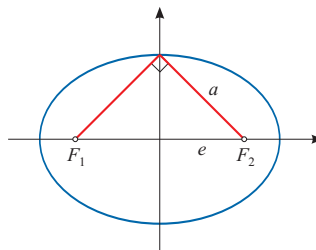


**Zadatak 17.** Žarišta elipse i jedno njezino tjeme vrhovi su pravokutnog trokuta kojem je površina jednaka 18. Odredi jednadžbu elipse.

*Rješenje.*



$$P = \frac{a^2}{2} = \frac{2e \cdot b}{2} = 18$$

$$a^2 = 36 \implies a = 6$$

$$eb = 18 \implies e = \frac{18}{b}$$

$$e^2 = a^2 - b^2$$

$$\left(\frac{18}{b}\right)^2 = 36 - b^2$$

$$\frac{324}{b^2} = 36 - b^2 \quad / \cdot b^2$$

$$324 = 36b^2 - b^4$$

$$b^4 - 36b^2 + 324 = 0$$

$$(b^2 - 18)^2 = 0 \quad / \sqrt{\quad}$$

$$b^2 = 18$$

$$b^2x^2 + a^2y^2 = a^2b^2$$

$$18x^2 + 36y^2 = 18 \cdot 36 \quad / : 18$$

$$x^2 + 2y^2 = 36$$