

**Zadatak 48.** Osi elipse paralelne su koordinatnim osima. Elipsa dira obje koordinatne osi, a njezino je desno žarište točka  $F(-2, -4)$ . Kako glasi jednačba elipse?

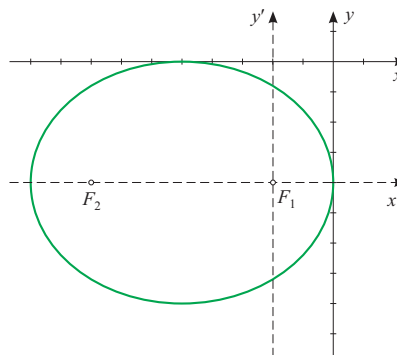
*Rješenje.*

$$F(-2, -4)$$

$$\frac{(x-p)^2}{a^2} + \frac{(y-q)^2}{b^2} = 1$$

$S(p, q)$  centar elipse

Ako elipsa dira koordinatne osi onda je  $|p| = a$ ,  $|q| = b$ .



$$q = -4, b = 4$$

$$a - 2 = e \implies a = e + 2$$

$$a^2 = b^2 + e^2$$

$$(e + 2)^2 = 16 + e^2$$

$$e^2 + 4e + 4 = 16 + e^2$$

$$4e = 12$$

$$e = 3$$

$$\implies a = 3 + 2 = 5$$

$$\implies p = -5$$

$$E \quad \dots \quad \frac{(x+5)^2}{25} + \frac{(y+4)^2}{16} = 1$$