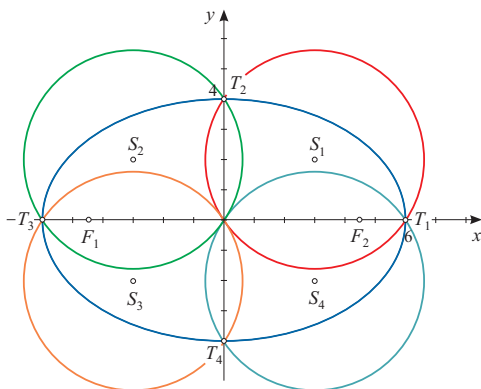


Zadatak 42. Kružnica prolazi jednim tjemenom velike osi, jednim tjemenom male osi elipse $4x^2 + 9y^2 = 144$ i ishodištem koordinatnog sustava. Napiši jednadžbu kružnice.

Rješenje.

$$4x^2 + 9y^2 = 144 \quad / : 144$$

$$\frac{x^2}{36} + \frac{y^2}{16} = 1$$



$$T_{1,2}(\pm 6, 0)$$

$$T_{3,4}(0, \pm 4)$$

$$O(0, 0)$$

$$k \dots x^2 + y^2 + ax + by + c = 0$$

$$T_1, T_3, O \dots 36 + 0 + 6a + 0 + c = 0$$

$$0 + 16 + 0 + 4b + c = 0$$

$$\underline{0 + 0 + 0 + 0 + c = 0} \implies c = 0$$

$$6a = -36 \implies a = -6$$

$$4b = -16 \implies b = -4$$

$$x^2 + y^2 - 6x - 4y = 0$$

$$(x - 3)^2 - 9 + (y - 2)^2 - 4 = 0$$

$$(x - 3)^2 + (y - 2)^2 = 13 \quad (\text{I. kvadrant})$$

$$T_2, T_3, O \dots (x + 3)^2 + (y - 2)^2 = 13 \quad (\text{II. kvadrant})$$

$$T_2, T_4, O \dots (x + 3)^2 + (y + 2)^2 = 13 \quad (\text{III. kvadrant})$$

$$T_1, T_4, O \dots (x - 3)^2 + (y + 2)^2 = 13 \quad (\text{IV. kvadrant})$$