

407. Odredite koordinate dirališta tangenti na kružnicu $(x-1)^2 + (y-2)^2 = 4$ okomitih na pravac $y = -2$.

1. $(-1,2)$, $(3,2)$ 2. $(1,4)$, $(1,0)$ 3. $(0,2+\sqrt{3})$, $(0,2-\sqrt{3})$
 4. ne postoje takva dirališta

$$k... (x-1)^2 + (y-2)^2 = 4 \Rightarrow p = 1, q = 2, r = 2$$

$$p... y = -2$$

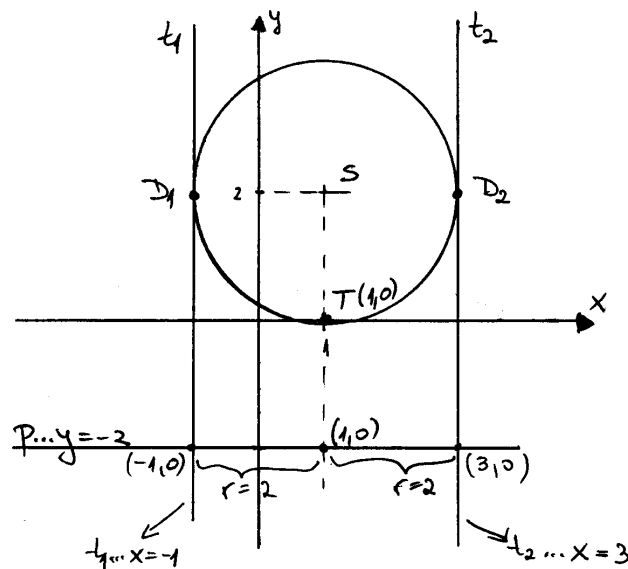
$$t_1 \perp p, t_2 \perp p$$

$$D_1 D_2 = ?$$

$$S = (p, q) \Rightarrow S = (1, 2)$$

$$r = 2$$

Nacrtamo kružnicu



$$t_1 \dots x = -1$$

$$t_2 \dots x = 3$$

$D_1(x_1, y_1) = ? \Rightarrow$ dobijemo tako da stavimo u sustav t_1 i k

$D_2(x_2, y_2) = ? \Rightarrow$ dobijemo tako da stavimo u sustav t_2 i k

$$t_1 \dots x = -1$$

$$k \dots (x-1)^2 + (y-2)^2 = 4$$

$$(-1-1)^2 + (y-2)^2 = 4$$

$$(-2)^2 + y^2 - 4y + 4 = 4$$

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

$$y_{1/2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y_{1/2} = \frac{4 \pm \sqrt{(-4)^2 - 4 \cdot 1 \cdot 4}}{2 \cdot 1}$$

$$y_{1/2} = \frac{4 \pm \sqrt{16 - 16}}{2} = \frac{4 \pm \sqrt{0}}{2}$$

$$y_1 = \frac{4}{2} = 2$$

$$D_1 = (-1, 2)$$

$$t_2 \dots x = 3$$

$$k \dots (x-1)^2 + (y-2)^2 = 4$$

$$(3-1)^2 + (y-2)^2 = 4$$

$$2^2 + y^2 - 4y + 4 = 4$$

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

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

$$y_{1/2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y_{1/2} = \frac{4 \pm \sqrt{(-4)^2 - 4 \cdot 1 \cdot 4}}{2 \cdot 1} = \frac{4 \pm \sqrt{16 - 16}}{2} = \frac{4 \pm \sqrt{0}}{2}$$

$$y_1 = \frac{4}{2} = 2$$

$$D_2 = (3, 2)$$