Zadatak 40. Pod kojim se kutom sijeku kružnice $x^2+y^2-6x-2y+2=0$ i $x^2+y^2-4x+4y+6=0$?

Rješenje.

$$-2x-6y-4=0$$
$$x=-3y-2$$
$$9y^2+12y+4+18y+12-2y+2=0$$
$$9y^2+30y+24=0$$
$$3y^2+10y+8=0$$
$$y_{1,2}=\frac{-10\pm\sqrt{100-96}}{6}$$
$$y_{1,2}=\frac{-10\pm 4}{6}$$
$$y_1=-1,\quad x_1=1$$
$$y_2=-\frac{7}{3},\quad x_2=5$$

$$(x_1-p)(x-p)+(y_1-q)(y-q)=r^2$$
$$(1-3)(x-3)+(-1-1)(y-1)=8$$
$$-2x+6-2y+2=8$$
$$y=-x$$
$$(1-2)(x-2)+(-1+2)(y+2)=2$$
$$-x+2+y+2=2$$
$$y=x-2$$

$k_1=-1$, $k_2=1$, tangente su okomite.
$\alpha=90^\circ$.