α) Είναι:

$$(x-1)^2+(y+3)^2 = x^2-2x+1^2+y^2+2\cdot 3\cdot y+3^2 =$$
$$= x^2-2x+1+y^2+6y+9 = x^2+y^2-2x+6y+10$$

β) Ισχύει ότι:

$$x^2+y^2-2x+6y+10=0 \overset{(\alpha)}{\Leftrightarrow} (x-1)^2+(y+3)^2=0 \Leftrightarrow$$
$$\Leftrightarrow ((x-1)^2=0 \text{ και } (y+3)^2=0) \Leftrightarrow (x-1=0 \text{ και } y+3=0) \Leftrightarrow (x=1 \text{ και } y=-3)$$