α. Με κέντρο K(2,-3) και ακτίνα  $\rho=4$  ο κύκλος έχει εξίσωση

$$(x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - 2)^2 + (y - (-3))^2 = 4^2 \Rightarrow (x - 2)^2 + (y + 3)^2 = 16$$

β. 
$$(x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - (-4))^2 + (y - 5)^2 = 3^2 \Rightarrow (x + 4)^2 + (y - 5)^2 = 9$$

$$\gamma. \ (x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - 1)^2 + (y - 1)^2 = \sqrt{5}^2 \Rightarrow (x - 1)^2 + (y - 1)^2 = 5$$

δ. 
$$(x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - 0)^2 + (y - (-2))^2 = \left(\frac{1}{2}\right)^2 \Rightarrow x^2 + (y + 2)^2 = \frac{1}{4}$$

$$\varepsilon. \ (x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - 7)^2 + (y - 0)^2 = \left(\frac{\sqrt{3}}{3}\right)^2 \Rightarrow (x - 7)^2 + y^2 = \frac{1}{3}$$

στ. 
$$(x - x_K)^2 + (y - y_K)^2 = \rho^2 \Rightarrow (x - \frac{3}{2})^2 + (y - \frac{1}{2})^2 = 1^2 \Rightarrow (x - \frac{3}{2})^2 + (y - \frac{1}{2})^2 = 1$$