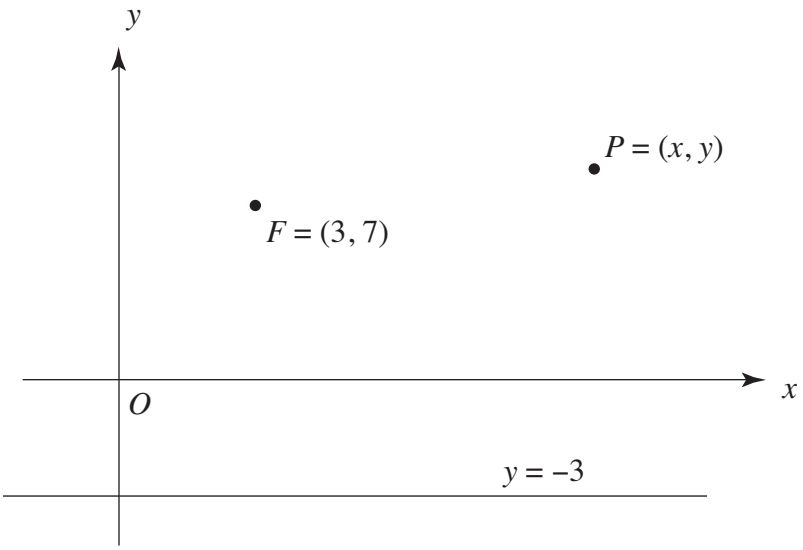
Quiz **Name**

1. Consider the circle $(x-2)^2+(y+3)^2=5^2$. Is the point $(-3,-4)$ inside the circle or outside it?

2. In the coordinate plane below, the horizontal line $y=-3$ and the point $F=(3,7)$ are given. Let $P=(x,y)$ be any point in the plane. Determine a condition on the coordinates x and y that will guarantee that P is on the parabola with focal point F and directrix $y=-3$.



3. The real number $4.5\underline{78}7878$ (with 78 repeating in its decimal expansion) is a rational number. Express it as a quotient of two positive integers.

4. Complete the square for the quadratic polynomial $x^2 + 3x - 1$. What is the smallest value the polynomial can have? For what value (or values) of x does the polynomial take its smallest value?