The complex numbers $z = x + iy$ which satisfy the equation $\frac{|z - 5i|}{|z + 5i|} = 1$, lie on

A. The x - axis

B. The straight line $y = 5$

C. A circle passing through the origin

D. None of these

$$\frac{|z-5i|}{|z+5i|}=1$$

$$\frac{|x+iy-5i|}{|x+iy+5i|}=1$$

$$\frac{|x+i(y-5)|}{|x+i(y+5)|}=1$$

$$\frac{\sqrt{x^2+(y-5)^2}}{\sqrt{x^2+(y+5)^2}}=1$$

$$\sqrt{x^2+(y-5)^2}=\sqrt{x^2+(y+5)^2}$$

$$x^2+(y-5)^2=x^2+(y+5)^2$$

$$-10y=10y$$

$$20y=0$$

$y=0$ (A)