Check your understanding

5. Suppose that (r_1, θ_1) and (r_2, θ_2) represent the same point in polar coordinates. Suppose that r_1 and r_2 are nonzero. What do we know about the relation between θ_1 and θ_2?

   (a) $\theta_1 = \theta_2$.

   (b) θ_1 and θ_2 differ by an integer multiple of 2π.

   (c) θ_1 and θ_2 differ by an integer multiple of π.

Answer: (c)

Explanation: We have $r_1 = \pm r_2$. If $r_1 = r_2$, then θ_1 and θ_2 differ by an even multiple of π. If $r_1 = -r_2$, then θ_1 and θ_2 differ by an odd multiple of π.