Question 14

A body is on a horizontal smooth plane and acted upon by three forces, with magnitudes and directions as shown in the diagram below.
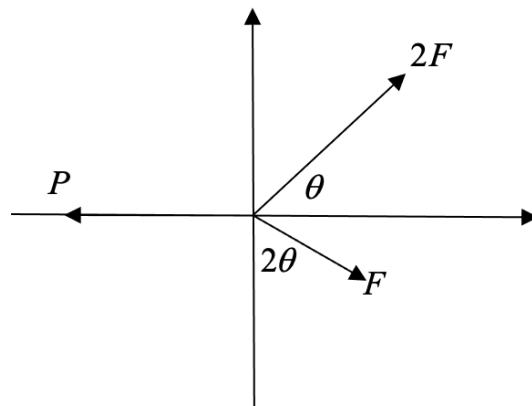
The correct statement relating the magnitude of the forces and the angle θ is

A. $P = 3F$

B. $P = 3F\sin(3\theta)$

C. $P = 3F\cos(3\theta)$

D. $P = 2F\sin(\theta) + F\cos(2\theta)$

E. $\theta = \sin^{-1}\left(\dfrac{\sqrt{3}-1}{2}\right)$