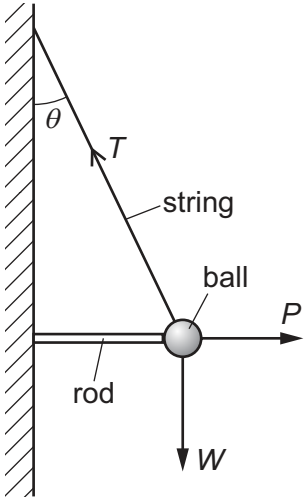
17 The diagram shows a ball of weight W hanging in equilibrium from a string.



The string is at an angle θ to the vertical. The tension in the string is T. The ball is held away from the wall by a horizontal force P from a metal rod.

What is the relationship between the magnitudes of T, P and W?

A $P = T\cos\theta$ and $W = T\sin\theta$

B $T = P + W$

C $T^2 = P^2 + W^2$

D $W = P\tan\theta$ and $W = T\cos\theta$