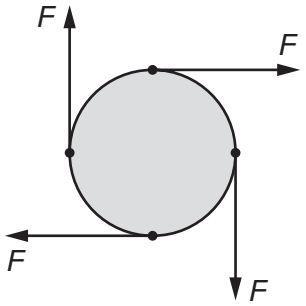
17 The diagram shows four forces acting on a circular disc.



Each force has magnitude *F*. Two of the forces act vertically and the other two forces act horizontally.

All four forces act in the same plane as the disc. No other forces act on the disc.

The disc has diameter *d*.

Which statement is correct?

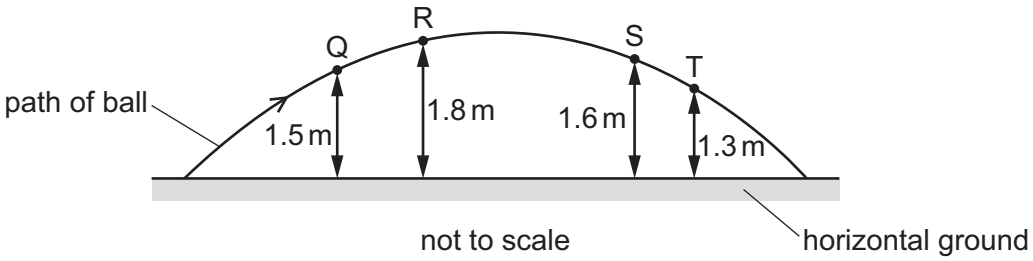
A The disc is in equilibrium because the resultant force is zero.

B The disc is **not** in equilibrium because the resultant force is 4*F*.

C The disc is in equilibrium because the resultant torque is zero.

D The disc is **not** in equilibrium because the resultant torque is 2*Fd*.

18 A ball is projected into the air from horizontal ground and follows the path shown in the diagram.



At points Q, R, S and T, the ball has kinetic energies E_Q, E_R, E_S and E_T respectively. The heights above the ground of these four points are shown.

Air resistance is negligible.

Which difference in kinetic energies is the smallest?

A $E_Q - E_S$ **B** $E_S - E_R$ **C** $E_T - E_Q$ **D** $E_T - E_R$