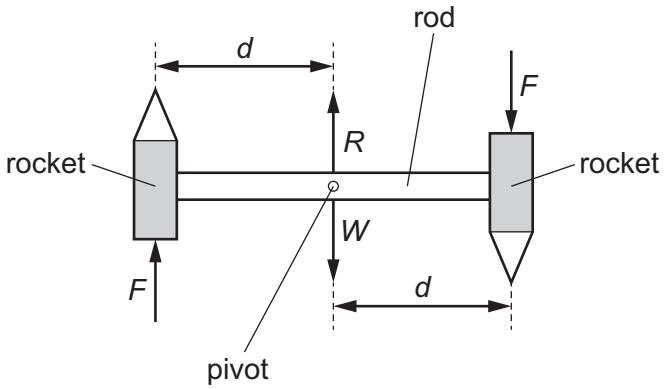
13 A type of firework is made by connecting two rockets, facing in opposite directions, to a rod, as shown.

The rod is attached to a frictionless pivot so that the firework can rotate in a vertical plane.

The firework has weight *W*. The pivot exerts a force *R* on the rod that is equal and opposite to *W*.



Each rocket exerts a force of magnitude *F* on the rod at a perpendicular distance *d* from the pivot. The forces exerted by the rockets are always in opposite directions.

Air resistance is negligible.

Which statement is correct?

A The firework is in equilibrium because the resultant force acting on it is zero.

B The firework is in equilibrium because the resultant torque acting on it is zero.

C The firework is not in equilibrium because the resultant force acting on it is not zero.

D The firework is not in equilibrium because the resultant torque acting on it is not zero.