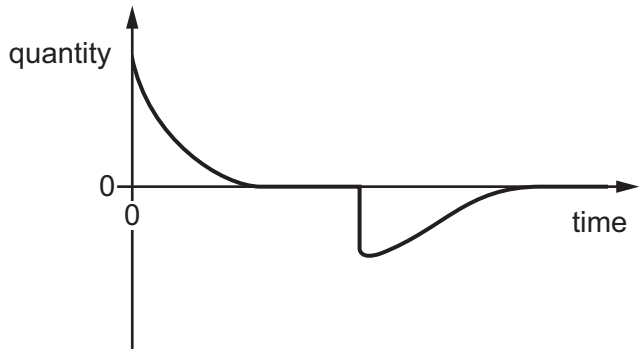
8 The graph shows how a physical quantity varies with time.



Which event could best be represented by the graph?

A the acceleration of a firework rising to a maximum height and falling to the ground

B the acceleration of a skydiver leaving an aircraft, falling, opening a parachute and falling to the ground

C the speed of a javelin as it leaves an athlete's hand, falls and sinks into the ground

D the speed of a high jump athlete leaving the ground, jumping over a bar and descending to the ground

9 What describes the mass of an object?

A the force the object experiences due to gravity

B the momentum of the object before a collision

C the resistance of the object to changes in motion

D the weight of the object as measured by a balance

10 A car has mass m. A person needs to push the car with force F in order to give the car acceleration a. The person needs to push the car with force $2F$ in order to give the car acceleration $3a$.

Which expression gives the constant resistive force opposing the motion of the car?

A ma **B** $2ma$ **C** $3ma$ **D** $4ma$