

**Mathematics Questions by Topics**

Motion and Force

Question 34

Source: K10SM2Q13

**Question 34**

A particle of mass 5 kg, initially at rest is acted upon by two forces. One force has a magnitude of  $5\sqrt{2}$  newtons acting in the north-west direction, the other force has magnitude of 10 newtons acting in the east direction. After two seconds, the magnitude of the momentum of the particle in  $\text{kg ms}^{-1}$  is equal to

- A.  $50\sqrt{2}$
- B.  $25\sqrt{2}$
- C.  $10\sqrt{2}$
- D.  $2(2 - \sqrt{2})$
- E.  $2\sqrt{2}$