

Mathematics Questions by Topics

Motion and Force

Question 22

Source: K13SM2Q11

Question 22

A particle is acted upon by two forces. One has a magnitude of $\sqrt{2}b$ newtons and acts in the direction $S45^\circ E$, the other has a magnitude of $\sqrt{2}c$ newtons and acts in the direction $N45^\circ E$, where b and c are non-zero real positive constants. The magnitude of the resultant force is equal to

A. $\sqrt{2}(b+c)$

B. $\frac{\sqrt{2}}{2}(b+c)$

C. $2\sqrt{2(b^2+c^2)}$

D. $\sqrt{2(b^2+c^2)}$

E. $2\sqrt{b^2+c^2}$