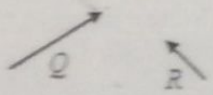
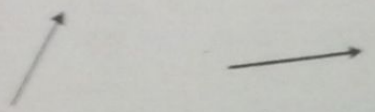
Vectors, Scalars, and Triangles Quiz A

Refer to the following vectors to answer questions 1-9. Assume that they are NOT perpendicular to each other; the angle between them is obtuse (greater than 90°).

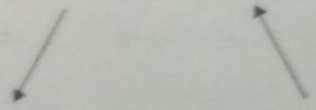


1. Which of the following represents the vector sum of vector Q and vector R?

A. C.

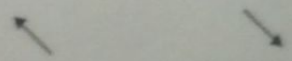


B. D.

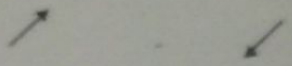


2. The negative of vector R is:

A. C.

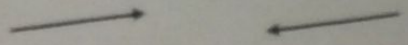


B. D.

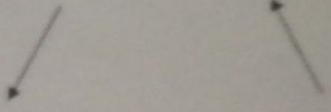


3. Which of the following represents the vector difference $R - Q$:

A. C.

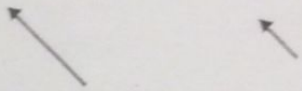


B. D.



4. If vector R represents the net force F in newtons required to accelerate a 2 kg mass 2 m/s^2, which of the following vectors represents the force required to accelerate the same 2 kg mass at 1 m/s^2 in the same direction? (Note: $F = ma$)

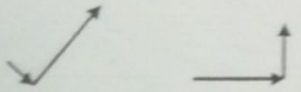
A. C.



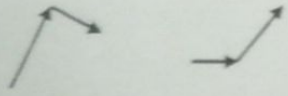
B. D.

5. All of the following are component vectors for vector Q and obey the Pythagorean theorem EXCEPT:

A. C.

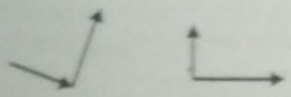


B. D.



6. Which of the following could not be a pair of component vectors for vector Q?

A. C.



B. D.