

Physics 1114 - General Physics I

Quiz #10 - 2012.09.14

Solutions

1. How can we determine if two forces are an action-reaction pair?

An action-reaction pair always represents a mutual interaction of two different objects. So if A and B are two separate objects, then $\vec{F}_{A \text{ on } B}$ and $\vec{F}_{B \text{ on } A}$ are an action-reaction pair.

2. Consider a particle, initially at point A , moving with constant speed (magnitude of velocity) around a path which eventually ends up back at point A . Which of the following are *always* true:

(a) The average velocity after the particle returns to point A is zero.

This is true.

(b) The average acceleration after the particle returns to point A is zero.

This is false.

(c) Instantaneous velocity after the particle returns to point A is zero.

This is false.

(d) Displacement after the particle returns to point A is zero.

This is true.

(e) Distance traveled after the particle returns to point A is zero.

This is false.