

- D 1) An object which is moving in a circle at constant speed is experiencing:
- A) Zero acceleration and a constant velocity.
 - B) Zero acceleration and a constantly changing velocity.
 - C) Non-zero acceleration and a constant velocity.
 - D) Non-zero acceleration and a constantly changing velocity.
- A 2) I am whirling a ball of mass “m” around my head. The tension in the string that is acting on the ball is:
- A) Equal to mv^2/r and always directed inwards.
 - B) Equal to v^2/r and always directed inwards.
 - C) Equal to mv^2/r and directed along the path of the ball.
 - D) Equal to v^2/r and directed along the path of the ball.
 - E) Equal to mv^2/r and directed outwards.
- C 3) You are in a car racing around a circular track. You are leaning against the outward-facing door when it suddenly pops open. You will:
- A) Move straight outward, away from the center of the track.
 - B) Move on a curving line inwards.
 - C) Move in a straight line tangential to the circular track.
 - D) Move in a curving line that begins on a tangential to the track.
 - E) Move outward and forward in a curving motion.
- E 4) The entity that we call “centrifugal force”:
- A) Is a real force that can be seen by all observers in all frames.
 - B) Pulls everything towards the center of a rotating frame.
 - C) Is a real force, but it only exists inside rotating frames.
 - D) Pulls everything on a tangential line around a circle.
 - E) Is a pseudo-force that only seems to exist depending on your viewpoint.
- B 5) Which of the following statements is *false*? When solving a problem with a rotating object, the centrifugal force:
- A) Can be resolved into vectors like any other force.
 - B) Cannot be resolved into vectors.
 - C) Can be considered to act directly away from the axis of rotation.
 - D) Can always be assigned a magnitude of mv^2/r .
 - E) Can be used so long as the mass continues to rotate in a circle.