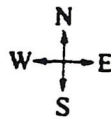
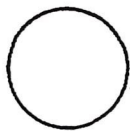


29. The center of mass of a uniform wire, bent in the shape shown above, is located closest to point

(A) A (B) B (C) C (D) D (E) E



View of Track from Above

30. A racing car is moving around the circular track of radius 300 meters shown above. At the instant when the car's velocity is directed due east, its acceleration is directed due south and has a magnitude of 3 meters per second squared. When viewed from above, the car is moving

(A) clockwise at 30 m/s
 (B) clockwise at 10 m/s
 (C) counterclockwise at 30 m/s
 (D) counterclockwise at 10 m/s
 (E) with constant velocity

31. Mass M_1 is moving with speed v toward stationary mass M_2 . The speed of the center of mass of the system is

(A) $\left(\frac{M_1}{M_2}\right)v$
 (B) $\left(1 + \frac{M_1}{M_2}\right)v$
 (C) $\left(1 + \frac{M_2}{M_1}\right)v$
 (D) $\left(1 - \frac{M_1}{M_2}\right)v$
 (E) $\left(\frac{M_1}{M_1 + M_2}\right)v$