2. (25 points) Shown below is a wheel (of radius r = 6 inch) rolling without slip on stationary ground. Please determine the velocity of point B, v_B, as a polar or Cartesian vector.

$\omega = 2$ rad/sec

B

C

20°

r = 6 inch

D

y

x

(Stationary Ground)

ω = 2 rad/sec

B

C

20°

r = 6 inch

D

y

x

(Stationary Ground)