A circular track has a circumference of 1570m with AB as one of its diameter. A scooterist moves from A to B along the circular path with a uniform speed of 5 m/s find the

a) distance covered

b) displacement

c) time taken for the scooterist to reach from A to B

a) Distance from A to B equals ½ of circumference, therefore, distance covered equals:

$$d = \frac{1}{2} 1570 = 785 \, m$$

Answer: 785 m

b) displacement equals length of diameter:

$$l = \pi d \implies d = l/\pi$$

l – circumference

$$d = \frac{l}{\pi} = \frac{1570}{3.14} = 500 \, m$$

Answer: 500 m

c) time equals:

$$t = \frac{l}{v}$$

where, l - distance covered, v – velocity

$$t = \frac{1570}{5} = 314 \, s$$

Answer: 314 s