

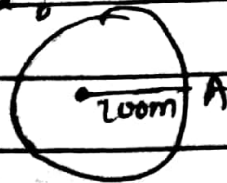
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Homework

Date _____
Page _____

1) A athlete complete one round of a circular track of diameter 200m in 40s. what will be the distance covered and displacement at the end of 2mins 20s?

Ans -> $\frac{200 \times 140}{40} = 700m$



$d = 200m, r = 100m$

$t = 40sec$

$2m 20sec = 140sec$

In 40s revolution = 1

In 140s revolution = 140

$d = 3.5(200) = 3.5 \times 2 \times 100 = 44 \times 3.5 = 2100m = 3.5$

displacement = 200m

2) $u = 0, a = 3$
 $t = 8$

$s = u + \frac{1}{2}at^2$

$= 0 + \frac{1}{2} \times 3 \times 64 = 96$

3) let $d = d_1, d_2 = x$
 $t = t_1, t_2$

Av. speed = $\frac{x+x}{t_1+t_2} = \frac{2x}{\frac{x}{20} + \frac{x}{30}} = \frac{2x}{\frac{5x}{60}} = \frac{60 \times 2}{5} = 24m/s$

4) $\frac{x}{t_1+t_2} = \frac{\frac{x}{2} + \frac{x}{2}}{\frac{5x}{20} + \frac{20x}{20}}$