

Answer on Question #43404, Physics, Mechanics — Kinematics — Dynamics —

A speedboat accelerates uniformly from rest at 3.0m/s^2 . The distance the speedboat will travel between 4.0s and 6.0s is?

Solution

Law of motion of boat is

$$s = at^2/2$$

Hence, distance traveled between 4.0s and 6.0s is

$$s_2 - s_1 = a/2(t_2^2 - t_1^2) = 3/2(6^2 - 4^2) = 30\text{ m}$$