General Physics Quarter 1 Week 5 Excercise

AVERAGE VELOCITY AND INSTANTANEOUS VELOCITY

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1. A car travels in a straight line along a road. Its distance x from a stop sign is given as a function of time t by the equation x (t) = at2 – bt3,

where a = 1.50 m/s2 and b = 0. 500 m/s3. Calculate the average velocity of the car for each time interval:

a. t = 0 to t = 2.00s

b. t = 0 to t = 4.00s

c. t = 2.00s to t = 4.00s

a =

1. A motorcycle rider is stopped at a traffic light. It then travels along a straight road so that its distance from the light is given by the equation x (t) = bt2 – ct3,

where b = 2.40 m/s2 and c = 0.120 m/s3.

Calculate the

a. average velocity of the rider for the time interval t =0 to t= 10.0 s

b. instantaneous velocity at t =0, t= 5.0 s and t =10.0 s

b1.

b2.

b3.