Answer on question #51916, Physics, Field Theory

Question The displacement of a particle along the X-axis is given as $x = 5t^2 + 1$ where x is in metres and t in seconds. Calculate its instantaneous velocity 2 s.
46 m/s
40 m/s
20 m/s
25 m/s

Solution Velocity is first derivative of displacement

$$v = x' = 10t$$

Hence, at 2 s:

$$v_{2s} = 10 \cdot 2 = 20 m/s$$

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