

Answer on Question #45920, Physics, Mechanics | Kinematics | Dynamics

Question:

Michael is driving his sports car at 30 m/s when he sees a dog on the road ahead. He slams on the brakes and comes to a stop in 2.0 seconds. What was the acceleration of Michael's car?

Answer:

Acceleration by definition equals:

$$a = \frac{\Delta v}{\Delta t}$$

where Δv is change of velocity, Δt is time interval.

$$a = \frac{30 \frac{m}{s}}{2s} = 15 \frac{m}{s^2}$$

Answer: $15 \frac{m}{s^2}$