

Question #54229, Physics / Mechanics | Kinematics | Dynamics |

An object is moving with a velocity of 20 m/s to the East, when it begins to slow down. It slows down by 2m/s every second. Indicate the magnitude and direction of the object's acceleration.

Answer:

If the object slows down, the acceleration is directed from the East to the West and has negative value. As the object loses 2 m/s every second, the magnitude of the object's acceleration equals:

$$a = v/t = -2 \text{ m s}^{-1} / 1 \text{ s} = -2 \text{ m s}^{-2}$$

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