

A car traveling in a straight line has a velocity of +2.3 m/s. After an acceleration of 0.74 m/s², the car's velocity is +8.4 m/s. In what time interval did the acceleration occur?

Solution.

$$v_0 = 2.3 \frac{m}{s}, a = 0.74 \frac{m}{s^2}, v = 8.4 \frac{m}{s};$$

$$t = ?$$

Velocity is:

$$v = v_0 + at.$$

The time interval is:

$$t = \frac{v - v_0}{a}.$$

$$t = \frac{8.4 - 2.3}{0.74} = 8.2(s).$$

Answer: $t = 8.2s$.