

# Momentum

definition



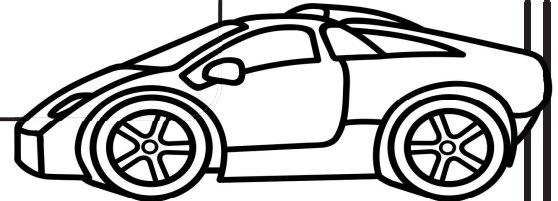
equation

units

$$\text{kg} \cdot \frac{\text{m}}{\text{s}}$$

example

Determine the momentum of a 1960-kg sportscar that travels 350 km/h [E].



compare

Which object has the greater magnitude of momentum?

A 75-kg runner moving at 4.5 m/s.

A 65-kg skater moving at 7.7 m/s.

A 47 million kilogram ship with speed of 42 km/h.

A 9 billion kilogram iceberg moving with speed 0.7 km/h.

An electron ( $m = 9.1 \times 10^{-31}$  kg) moving at 0.8 the speed of light ( $c = 3.00 \times 10^8$  m/s).

A proton ( $m = 1.67 \times 10^{-27}$  kg) moving at half the speed of light.

Name: