

Answer on Question #54745, Physics / Other

The elevators in the John Hancock building in Chicago move 783 ft in 33 s.
What is their speed? Answer in units of m/s

Solution:

Speed is mathematically given as:

$$v = \frac{d}{t}$$

Where

v is the Speed in m/s,

d is the Distance traveled in m,

t is the time taken in s.

The length of the international foot is to be exactly 0.3048 meters.

Thus,

$$v = \frac{(783 \text{ ft}) \cdot 0.3048}{(33 \text{ s})} = 7.232 \text{ m/s} \approx 7.2 \text{ m/s}$$

Answer: 7.2 m/s