

30. The acceleration is found from Eq. 2-11 (or, suitably interpreted, Eq. 2-7).

$$a = \frac{\Delta v}{\Delta t} = \frac{(1020 \text{ km/h}) \left(\frac{1000 \text{ m/km}}{3600 \text{ s/h}} \right)}{1.4 \text{ s}} = 202.4 \text{ m/s}^2 .$$

In terms of the gravitational acceleration g , this is expressed as a multiple of 9.8 m/s^2 as follows:

$$a = \frac{202.4}{9.8} g = 21g .$$