

- 7 A large bucket, lifted by a rope attached to a crane, is used on a building site to raise heavy loads.

The bucket, of total mass  $m$  when fully loaded, rises at a uniform speed  $v$  before decelerating uniformly to rest in time  $t$ .

What is the difference of tension in the rope supporting the bucket between the time when the bucket is moving at uniform speed and the time when the bucket is decelerating?

- A  $\frac{-mg}{t}$       B  $\frac{-mv}{t}$       C  $m(g - \frac{v}{t})$       D  $m(\frac{v}{t} - g)$