Question:

A truck is moving at a constant speed of 18 meters per second on a straight horizontal road.When the driver of the truck spots a herd of sheep crossing the road, it takes 0.5seconds before he hits the brakes.The truck stops 6seconds after the brakes have been applied.Assume that the acceleration of the truck is uniform.
Calculate the acceleration of the truck

Solution:

If the acceleration a of the truck is uniform  its velocity equals to $v = v_0 - at$ . As far as the final velocity is 0, then the acceleration  $a = \dfrac{v_0}{T} = \dfrac{18}{6+0.5} = 2.8$ (m/s²).

The answer:

The acceleration  a = 2.8 m/s².