

Name:

Use the equation $v^2 - u^2 = 2as$ to help you answer these questions.

1. A car begins at a speed of 3m/s and accelerates at 2m/s² over a distance of 40m, calculate the final speed of the car.
2. A runner reaches a speed of 3m/s after accelerating at 2.25m/s² whilst travelling a distance of 2m, calculate the initial speed of the runner.
3. A bicycle accelerates from rest to 6m/s in a distance of 50m, calculate the acceleration.
4. A person who is initially stationary is eventually walking at a speed of 1.5m/s after an acceleration of 0.5 m/s², calculate the distance it takes them to reach this speed.
5. A car reaches a speed of 15m/s after an acceleration of 2m/s² over a distance of 44m, calculate the initial speed.
6. A motorbike reaches a speed of 20m/s over 60m, whilst accelerating at 3m/s², determine the bike's initial speed.
7. A person begins moving after initially being stationary, the person accelerates at 0.5m/s² over a distance of 9m, what is their final speed?
8. A lorry pulls forward after initially being stationary, it takes the lorry 40m to reach a speed of 8m/s, calculate the lorry's acceleration.
9. A child travels down a slide, at the top the child is initially at rest, at the bottom the child is travelling at a speed of 3m/s, the child's acceleration is 1m/s², how long is the slide?