

- 9 A cyclist travels along a straight horizontal road between house A and house B .

The cyclist starts from rest at A and moves with constant acceleration for 20 seconds, reaching a velocity of 15 m s^{-1} . The cyclist then moves at this constant velocity before decelerating at 0.3 m s^{-2} , coming to rest at B .

- (a) Find the time, in seconds, for which the cyclist is decelerating. [1]
- (b) Sketch a velocity-time graph for the motion of the cyclist between A and B . [Your sketch need not be drawn to scale; numerical values need not be shown.] [1]

The total distance between A and B is 1950 m.

- (c) Find the time, in seconds, for which the cyclist is moving at constant velocity. [2]