

- 7 The diagram shows an arrangement to stop trains that are travelling too fast.



Trains coming from the left travel at a speed of 50 m s^{-1} . At marker 1, the driver must apply the brakes so that the train decelerates uniformly in order to pass marker 2 at no more than 10 m s^{-1} .

The train carries a detector that notes the times when the train passes each marker and will apply an emergency brake if the time between passing marker 1 and marker 2 is less than 20 s.

How far from marker 2 should marker 1 be placed?

- A 200 m B 400 m C 500 m D 600 m

Space for working