

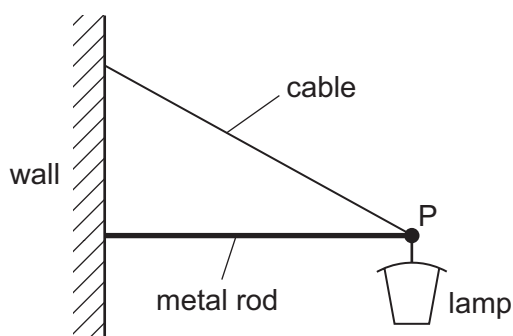
- 12 In order that a train can stop safely, it will always pass a signal showing a yellow light before it reaches a signal showing a red light. Drivers apply the brake at the yellow light and this results in a uniform deceleration to stop exactly at the red light.

The distance between the red and yellow lights is  $x$ .

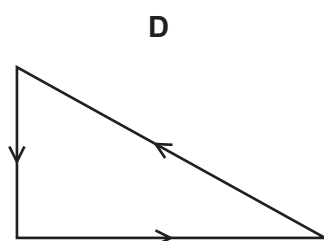
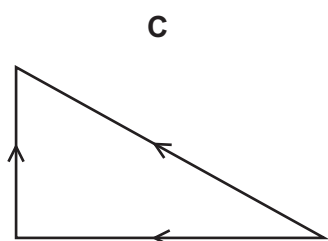
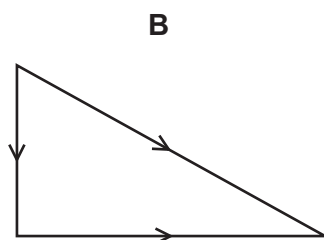
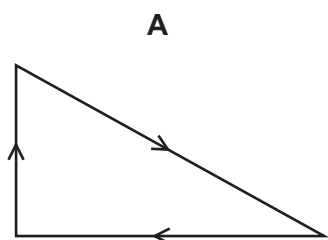
What must be the minimum distance between the lights if the train speed is increased by 20 %, without changing the deceleration of the trains?

- A  $1.20x$       B  $1.25x$       C  $1.44x$       D  $1.56x$

- 13 A street lamp is fixed to a wall by a metal rod and a cable.



Which vector triangle represents the forces acting at point P?



Space for working