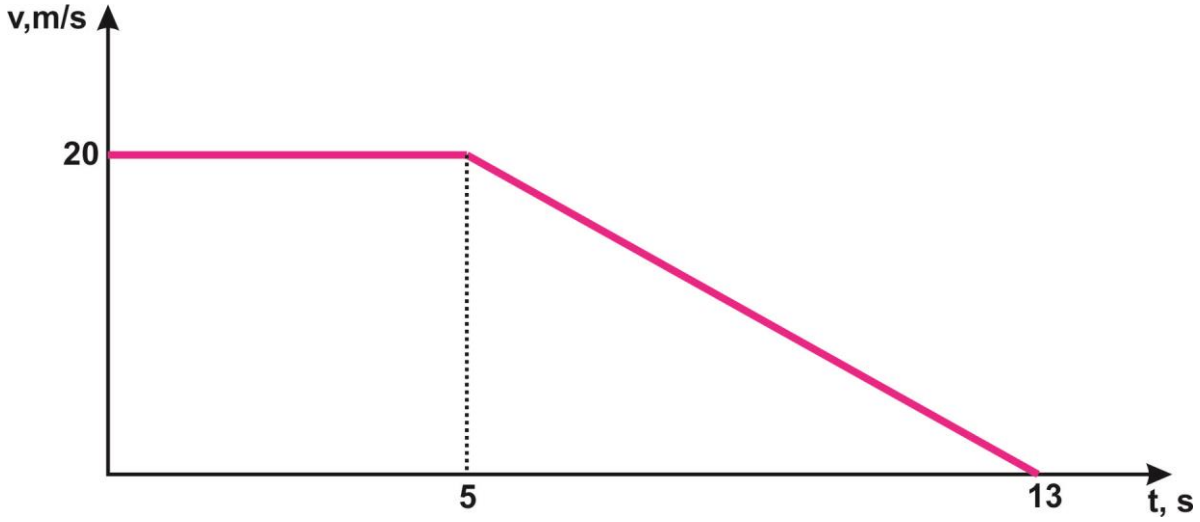
Answer on Question #67430- Physics / Other

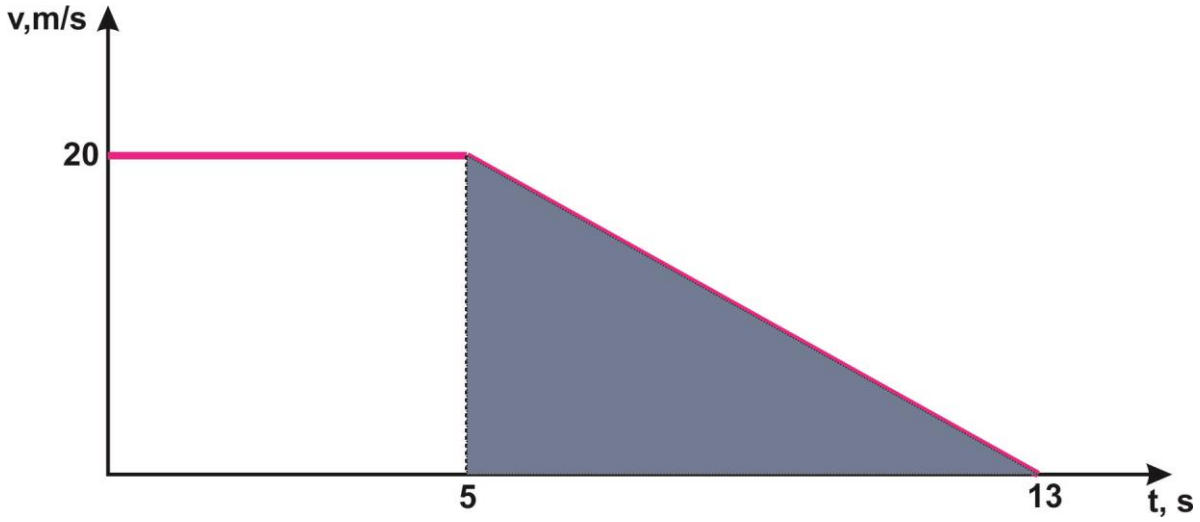
A car travel at a uniform velocity of 20m/s for 5s. The breaks are applied and the car comes to rest with uniform retardation in a further 8s. Draw a velocity diagram. How far does the car travel after the breaks are applied?

Solution:

The velocity diagram



The area under the line in a velocity-time graph represents the distance travelled after the breaks are applied.



So, distance

$$s = \frac{1}{2} \times 20 \times 8 = 80 \text{ m}.$$

Answer: $s = 80$ m.