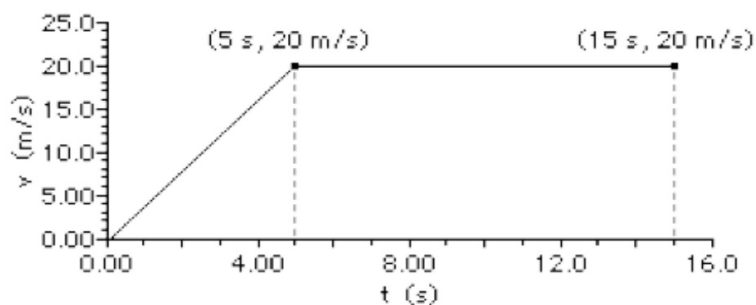


- a. Describe the motion of the car during each of the two parts of its motion.

0-5 s: + dir, speeding up, + accel

5-15 s: + dir, const. vel, no accel (accel =  $0 \frac{m}{s^2}$ )

- b. Construct a dot diagram for the car's motion.



- c. Determine the acceleration of the car during each of the two parts of its motion.

0-5 s

5-15 s

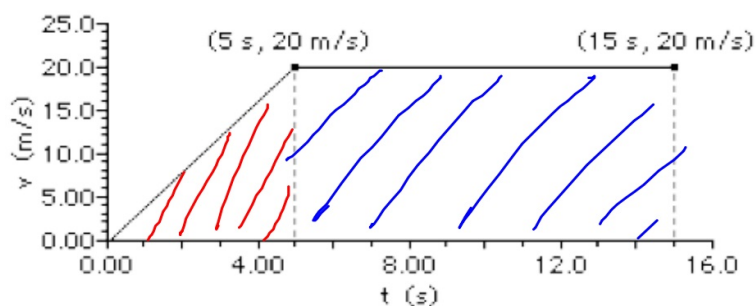
$\frac{m}{s^2}$

$$a = \frac{20 - 0 \text{ ms}^{-1}}{5 - 0 \text{ s}}$$

$$a = 4.00 \text{ ms}^{-2}$$

$$a = \frac{20 - 20 \text{ ms}^{-1}}{15 - 5 \text{ s}}$$

$$a = 0.00 \text{ ms}^{-2}$$



d. Determine the displacement of the car during each of the two parts of its motion.

0-5 s

$$A = \frac{1}{2} b h$$

$$A = \frac{1}{2} (5s)(20ms^{-1})$$

$$A = 50.0 m$$

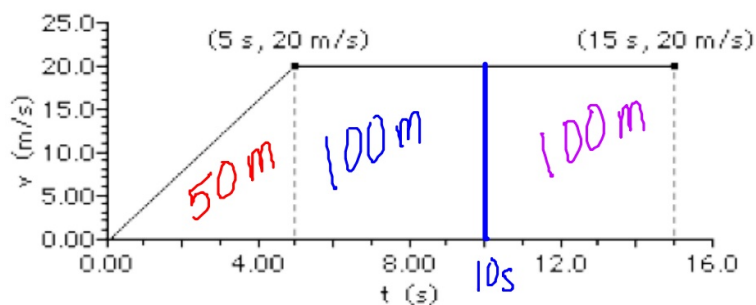
5-15 s

$$A = b \cdot h$$

$$A = (10s)(20ms^{-1})$$

$$A = 200 m$$

$$2.00 \times 10^2 m$$



Time (s)	Pos'n (m)
0	0
5	50
10	150
15	250

$\curvearrowright +50 m$   
 $\curvearrowright +100 m$   
 $\curvearrowright +100 m$

