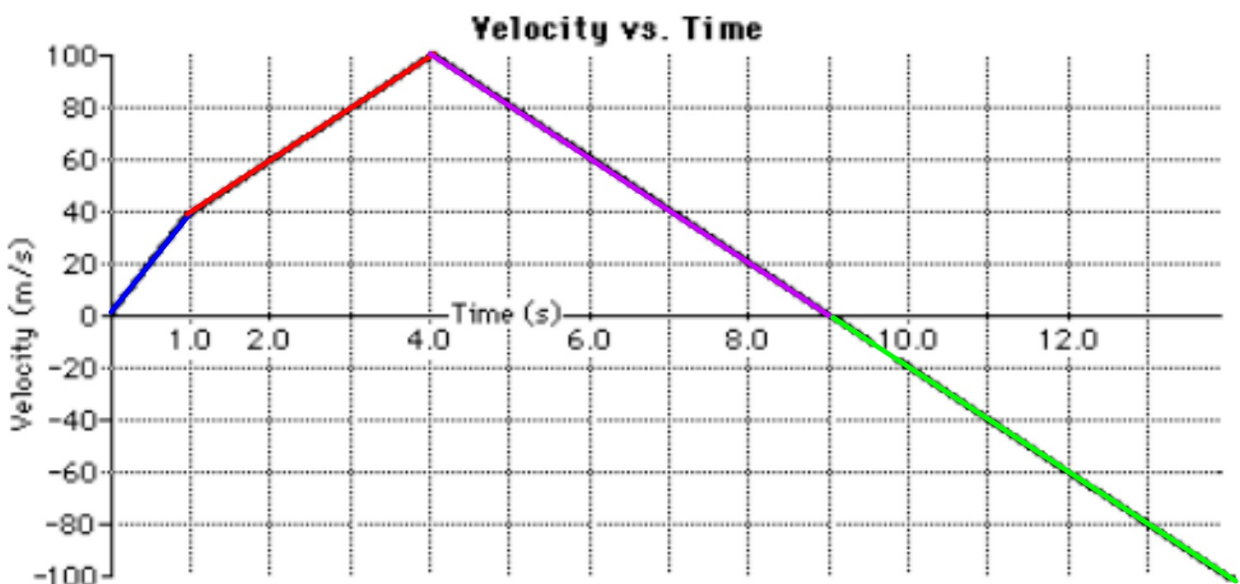
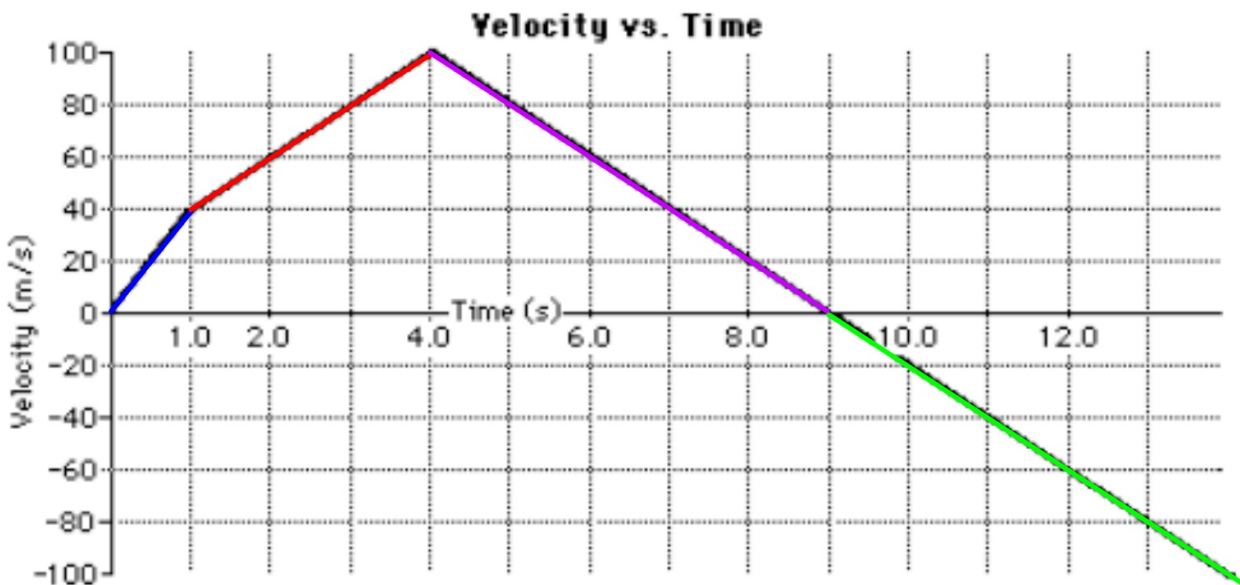


- For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
- Written description of the motion
 - Construct a particle model
 - Calculate the acceleration
 - Calculate the displacement

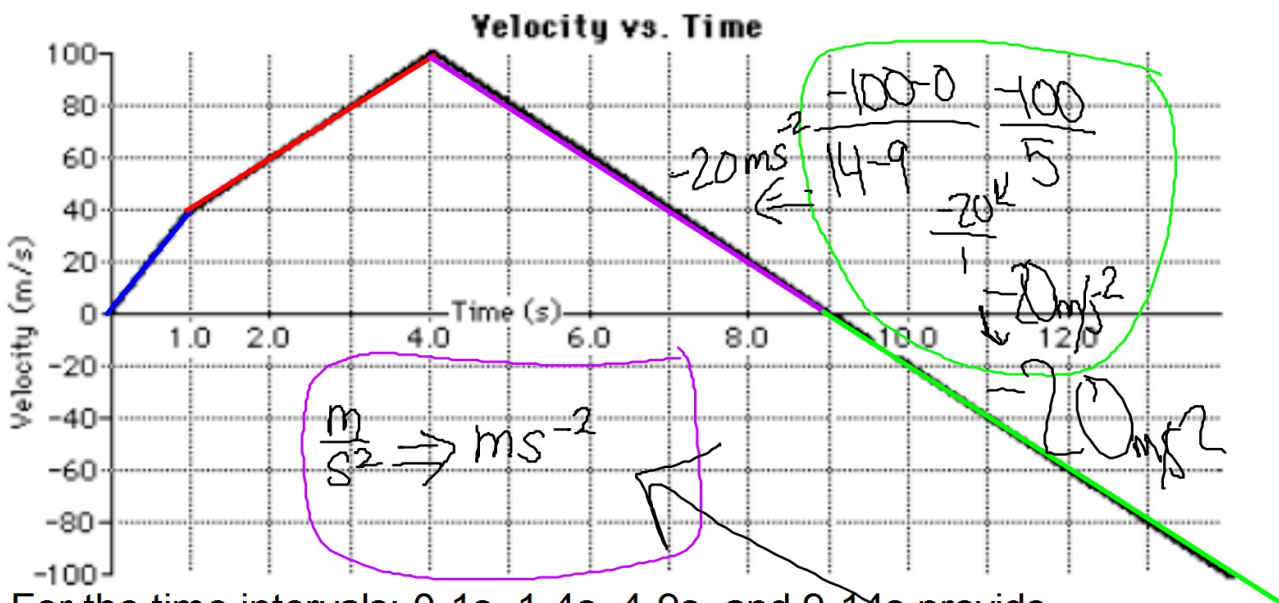


- For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
- Written description of the motion

+ direction, speeding up, + accel
 + direction, speeding up, + accel, slower than 0-1
 - acceleration, slowing down, + direction
 speeding up
 - velocity, - dir, + accel.



For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (b) Construct a particle model

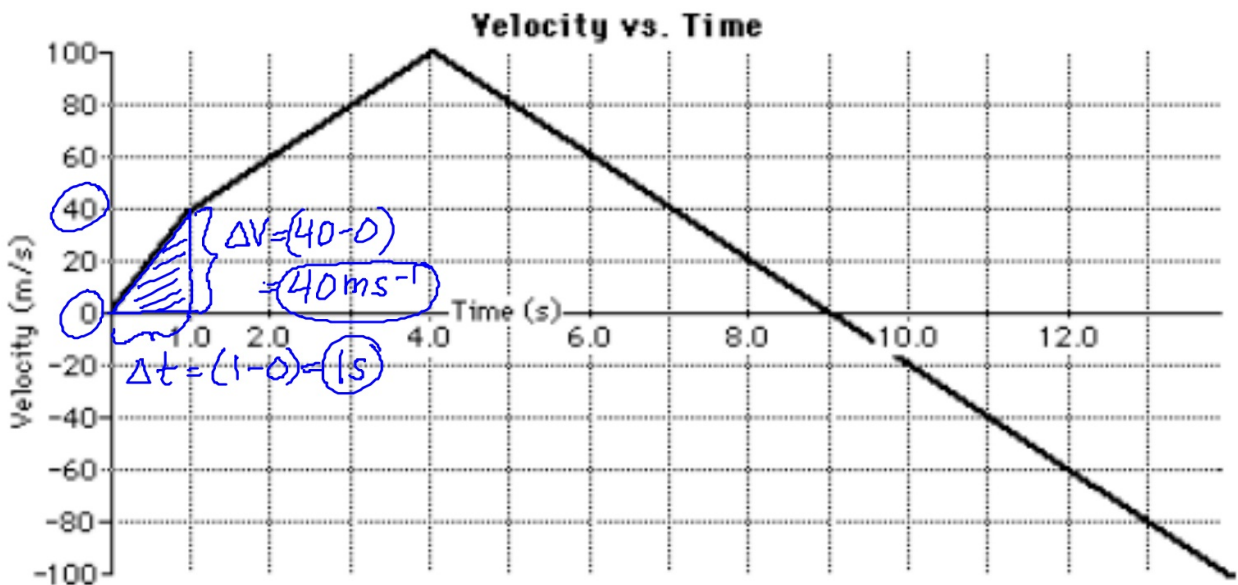


For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (c) Calculate the acceleration

$$\frac{40-0}{1-0} = \frac{40}{1} = 40 \text{ ms}^{-2}$$

$$\frac{100-40}{4-1} = \frac{60}{3} = 20 \text{ ms}^{-2}$$

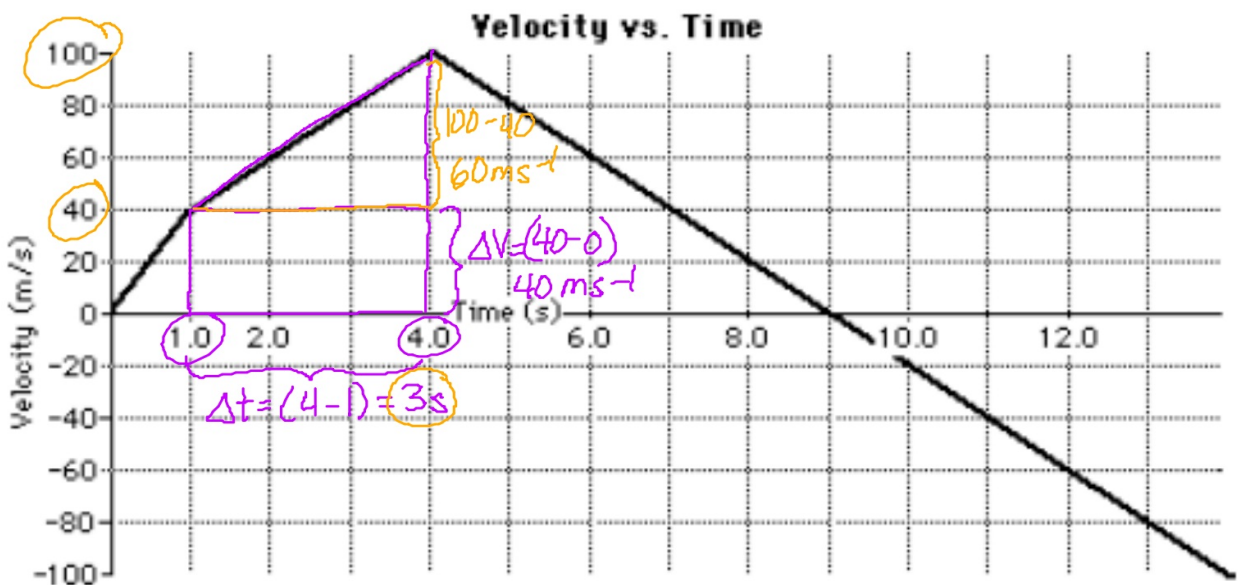
$$\frac{0-100}{9-4} = \frac{-100}{5} = -20 \text{ ms}^{-2}$$



For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (d) Calculate the displacement

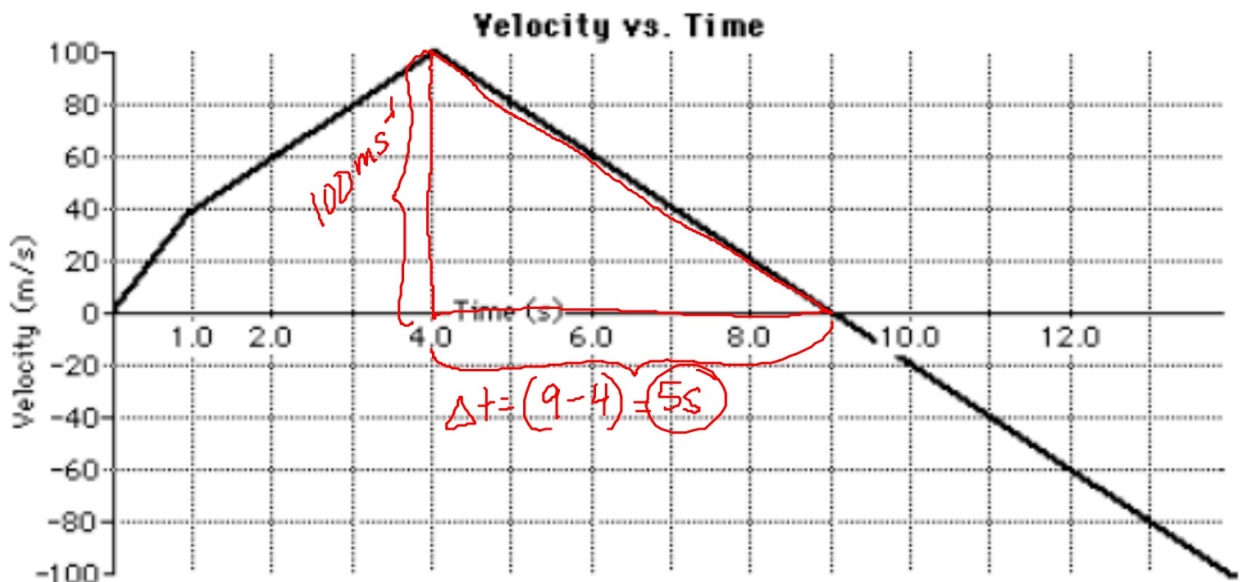
$$A_{\Delta} = \frac{1}{2} b \cdot h = \frac{1}{2} (1s)(40ms^{-1}) = 20m$$

3



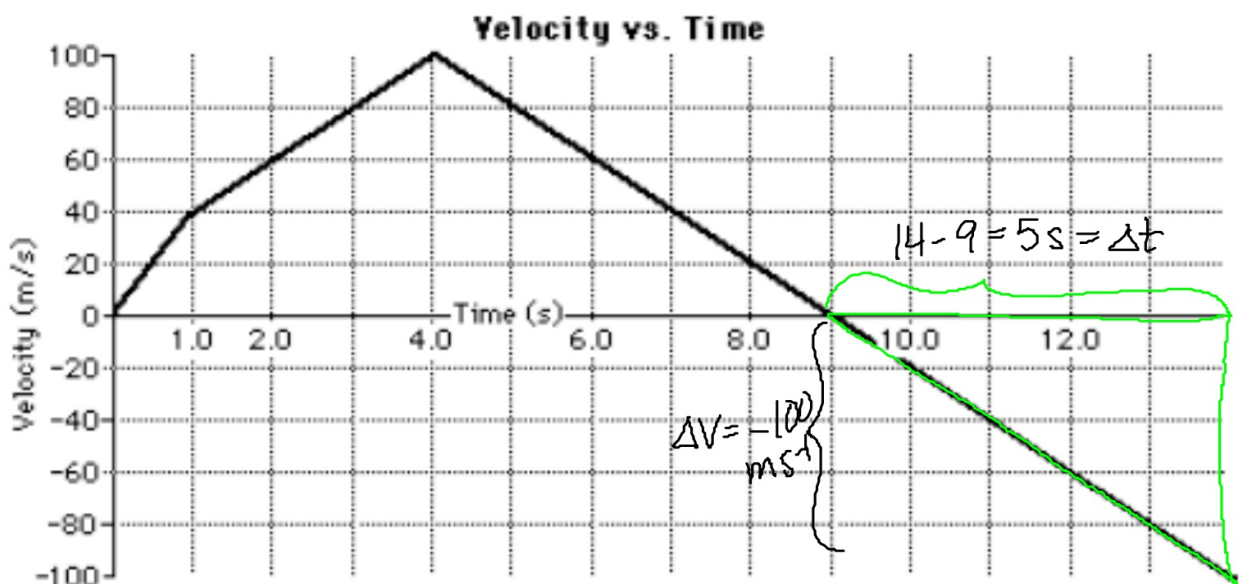
For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (d) Calculate the displacement

$$\left. \begin{aligned} A_{\square} &= b \cdot h = (3s)(40ms^{-1}) = 120m \\ A_{\Delta} &= \frac{1}{2} b \cdot h = \frac{1}{2} (3s)(60ms^{-1}) = 90m \end{aligned} \right\} 210m$$



For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (d) Calculate the displacement

$$A = \frac{1}{2} b h = \frac{1}{2} (5s)(100 \text{ m s}^{-1}) = 250 \text{ m}$$



For the time intervals: 0-1s, 1-4s, 4-9s, and 9-14s provide
 (d) Calculate the displacement

$$A = \frac{1}{2} b h = \frac{1}{2} (5s)(-100 \text{ m s}^{-1}) = -250 \text{ m}$$

(e) Position-Time Graph

Time (s):	Position (m):
0	0
1	<u>20m</u>
4	<u>230m</u>
9	<u>480m</u>
14	<u>230m</u>

displacement 0-1s (+20m)
+210m
+250m
-250m

