Can we get everything we need from the velocity graph?
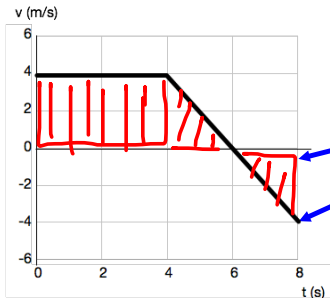
Slope is acceleration.

$$a = \frac{rise}{run}$$

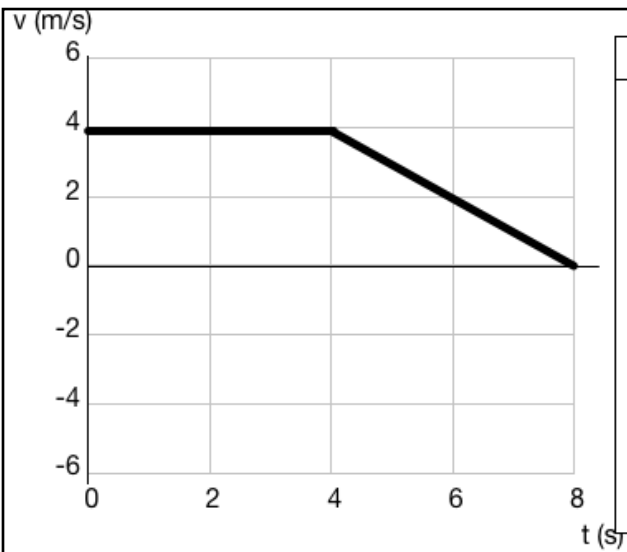(If it's a downslope, the slope is negative.)

Area is change in position.

Between graph and 0-line.
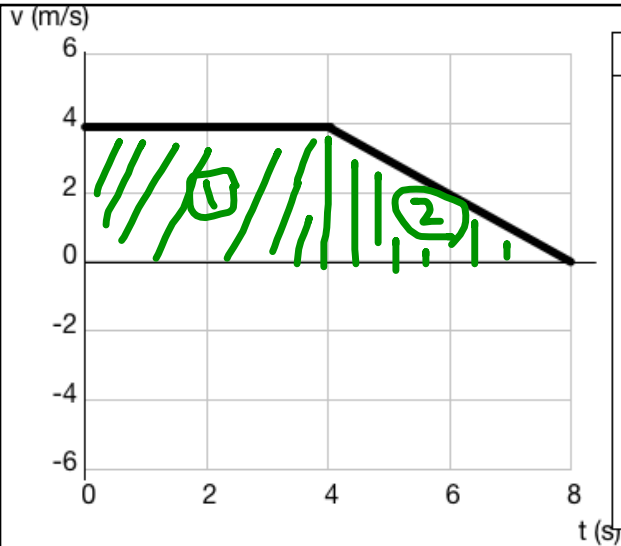
Break it up into triangles and rectangles to make the calculation easier.

Area below the 0-line counts as negative (going left).

v (m/s)

	total change in position calculation

from when to when	description (words)	acceleration calculation

t (s)

v (m/s)

total change in position calculation

Area 1 = bh = (4 s)(4 m/s)

= 16 m

Area 2 = 1/2bh = (1/2)(4 s)(4 m/s)

= 8 m

Total change in position = 16 m + 8 m

= 24 m

t (s)

from when to when	description (words)	acceleration calculation
0 to 4 s	Constant speed to the right.	rise: $\frac{0}{\text{run: 4 s}}$ = 0
4 to 8 s	Slow down - moving right.	rise: $\frac{\text{-4 m/s}}{\text{run: 4 s}}$ = -1 m/s/s