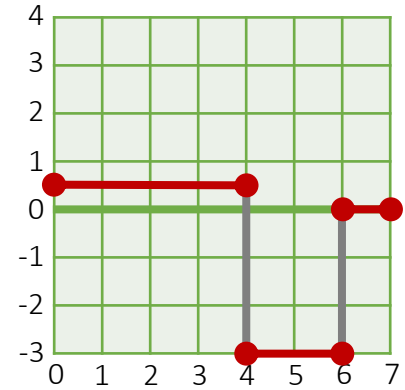
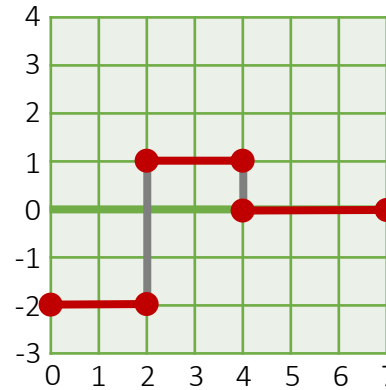
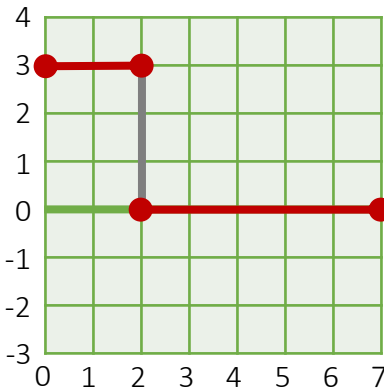
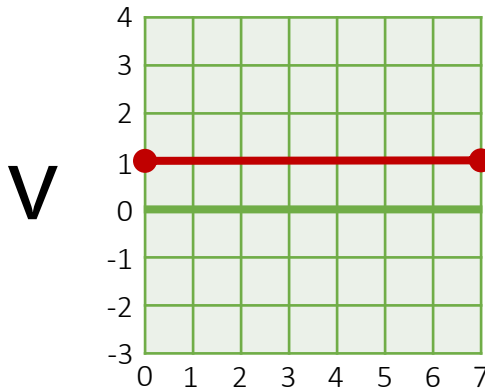
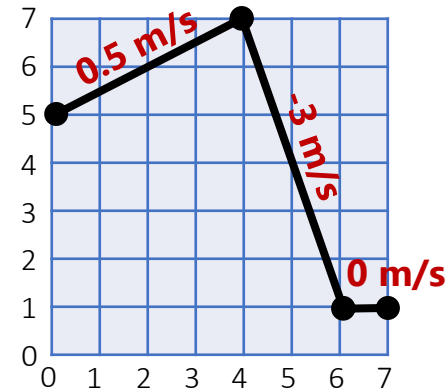
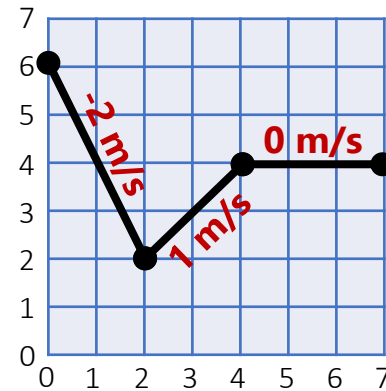
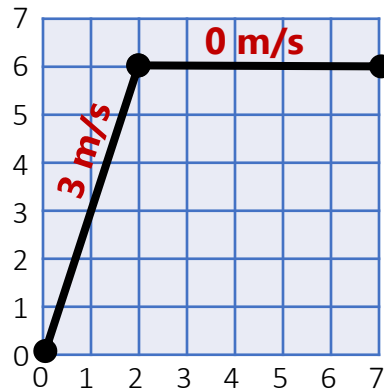
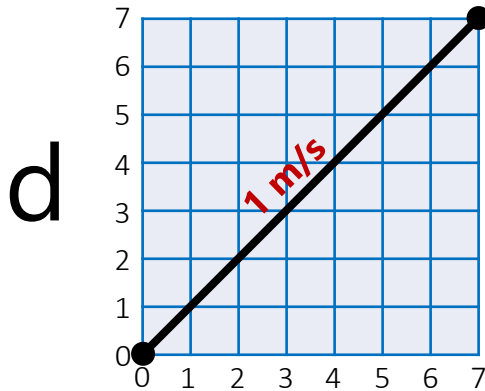


Drawing Motion Graphs = Level 1 =

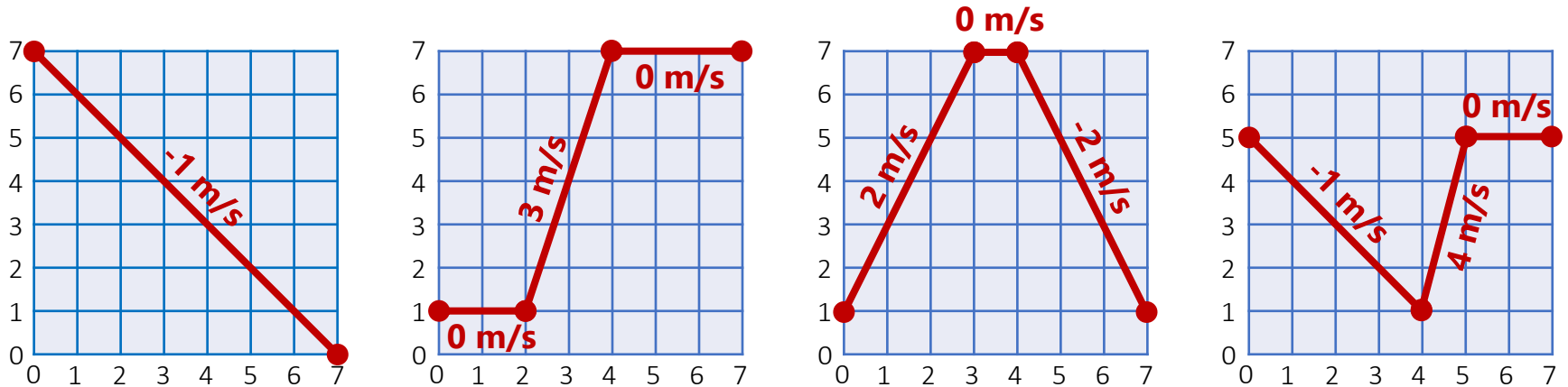
Convert the following Displacement vs. Time graphs into Velocity vs. Time graphs



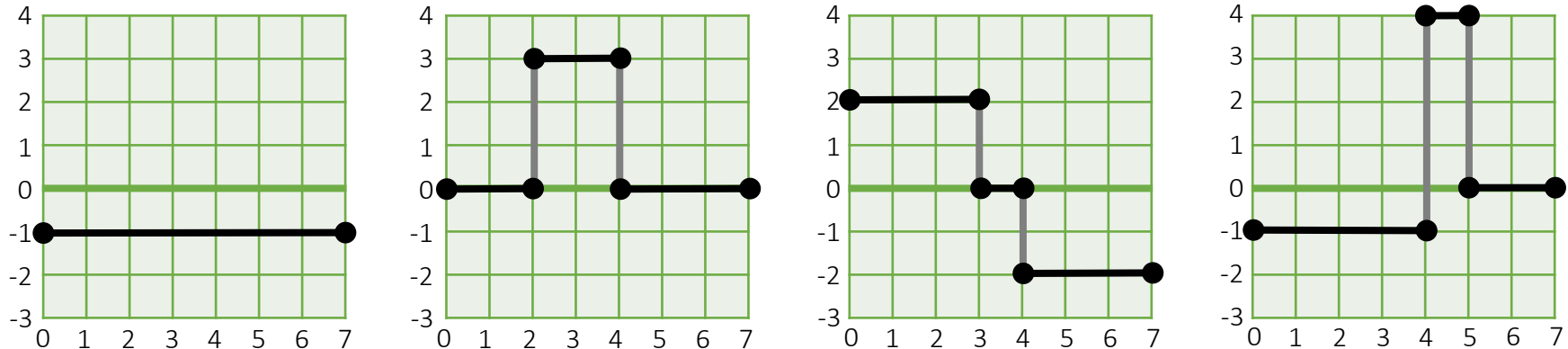
Drawing Motion Graphs = Level 2 =

Convert the following Velocity vs. Time graphs into Displacement vs. Time graphs

d



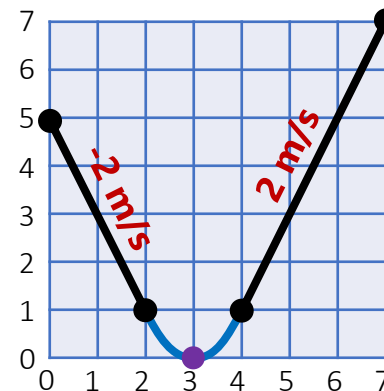
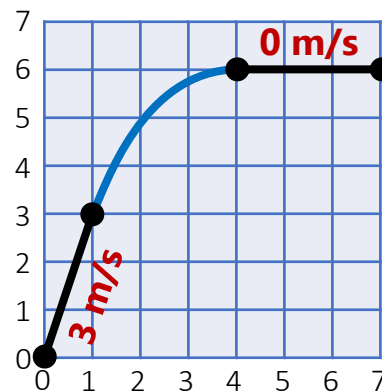
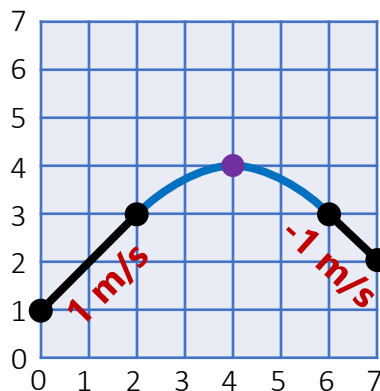
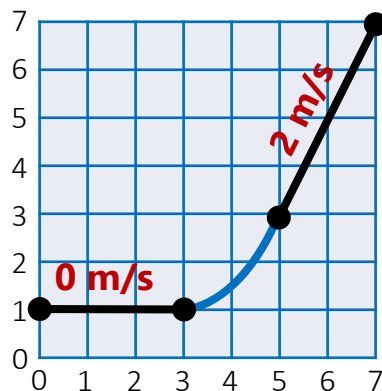
v



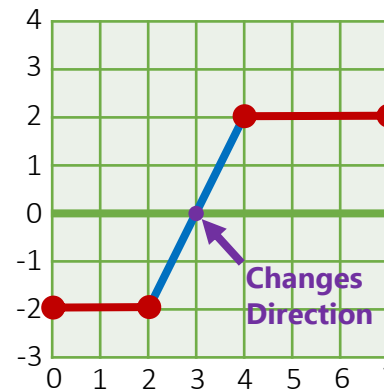
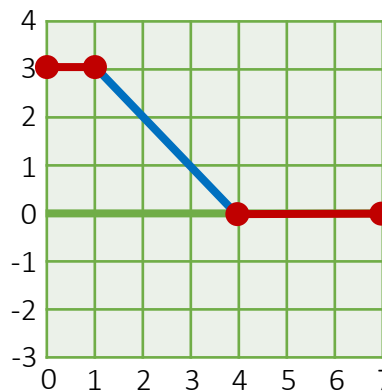
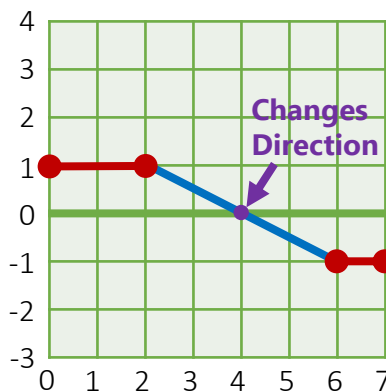
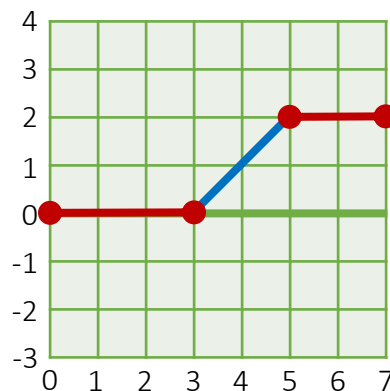
Drawing Motion Graphs = Level 3 =

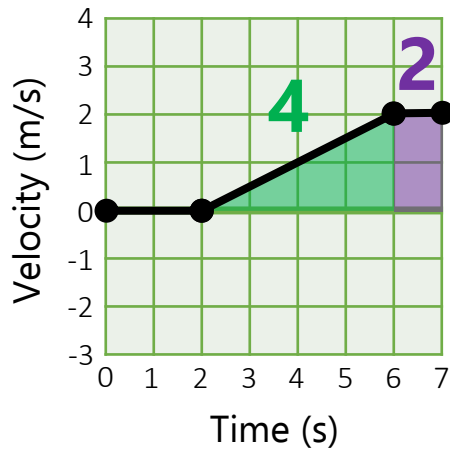
Convert the following Displacement vs. Time graphs into Velocity vs. Time graphs

d



v



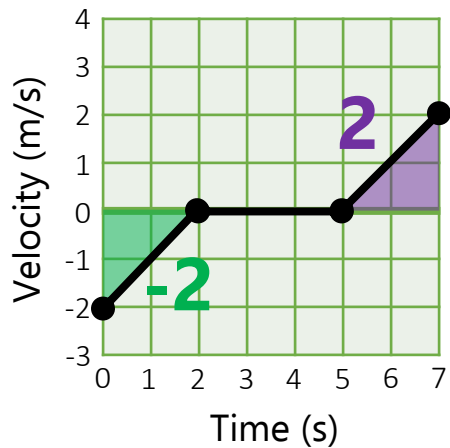


What is the acceleration between 2-5 seconds?

$$\text{Acceleration} = \text{slope} = \mathbf{0.5 \text{ m/s}^2} \text{ (or } 0.5 \text{ m/s/s)}$$

What the total displacement represented in this graph?

$$\text{Displacement} = \text{area} = (\tfrac{1}{2})(4)(2) + (1)(2) = \mathbf{6 \text{ m}}$$

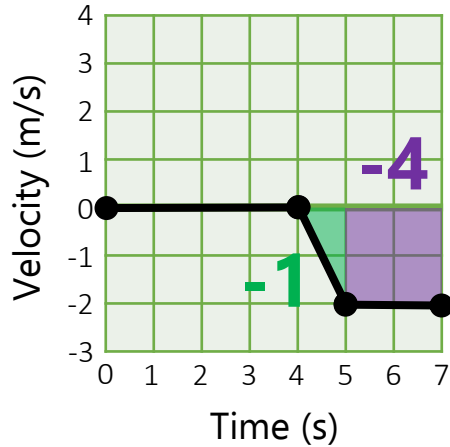


What is the acceleration between 2-5 seconds?

$$\text{Acceleration} = \text{slope} = \mathbf{0 \text{ m/s}^2} \text{ (or } 0 \text{ m/s/s)}$$

What the total displacement represented in this graph?

$$\begin{aligned} \text{Displacement} = \text{area} &= (\tfrac{1}{2})(2)(-2) + (\tfrac{1}{2})(2)(2) \\ &= \mathbf{0 \text{ m}} \end{aligned}$$

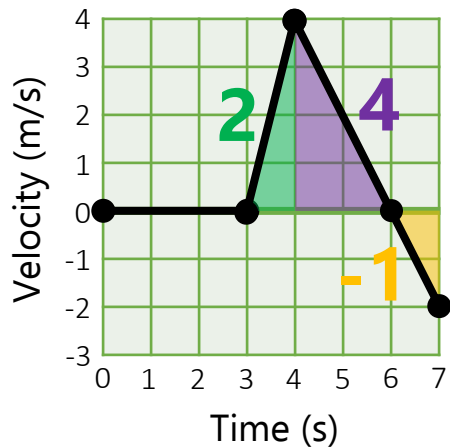


During which interval is it moving in the negative direction?

Velocity is negative from 4 s to 7 s

What the total displacement represented in this graph?

$$\text{Displacement} = \text{area} = (\frac{1}{2})(1)(-2) + (2)(-2) = -5 \text{ m}$$

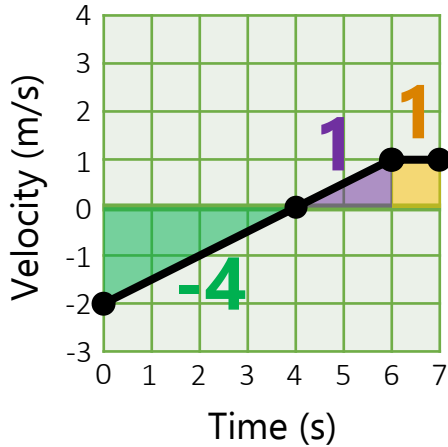


What is the significance of the point at 6 seconds?

This is when the object changes direction

What the total displacement represented in this graph?

$$\text{Displacement} = \text{area} = (\frac{1}{2})(1)(4) + (\frac{1}{2})(2)(4) + (\frac{1}{2})(1)(-2) = 5 \text{ m}$$



Describe the motion between 0-6 seconds

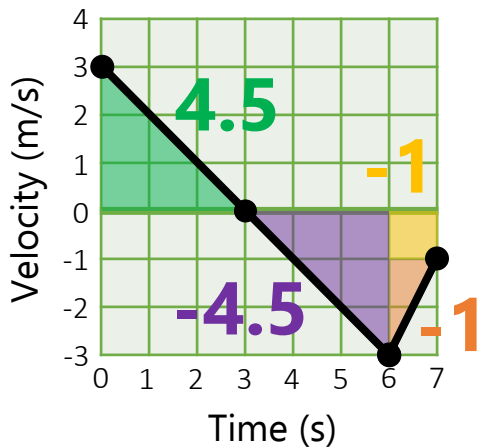
Moving backward (negative velocity) from 0-4 s

Moving forward (positive velocity) from 4-6 s

What the total displacement represented in this graph?

Displacement = area

$$= (\frac{1}{2})(4)(-2) + (\frac{1}{2})(2)(1) + (1)(1) = -2 \text{ m}$$



Describe the motion between 0-6 seconds

Moving forward (positive velocity) from 0-3 s

Moving backward (negative velocity) from 4-6 s

What the total displacement represented in this graph?

Displacement = area

$$= (\frac{1}{2})(3)(3) + (\frac{1}{2})(3)(-3) + (1)(1) + (\frac{1}{2})(1)(-2) = -2 \text{ m}$$