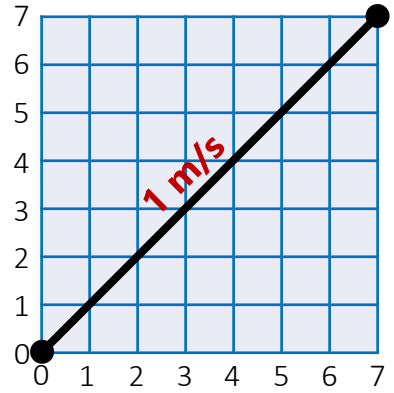
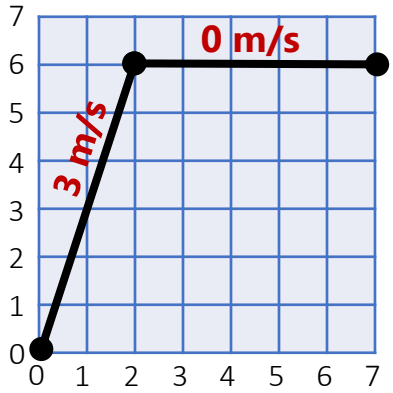
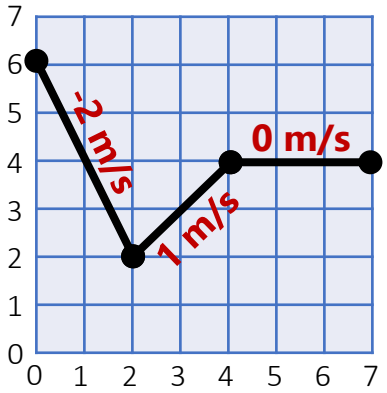
Drawing Motion Graphs = Level 1 =

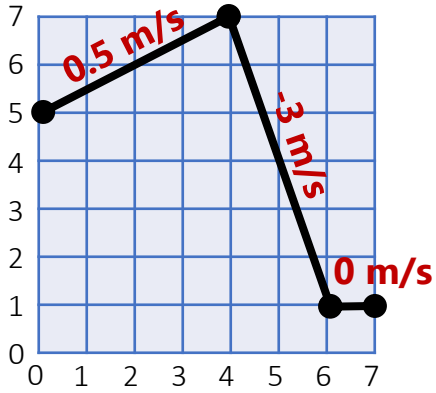
Convert the following Displacement vs. Time graphs into Velocity vs. Time graphs

d

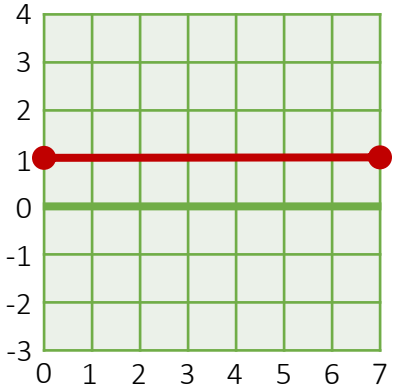


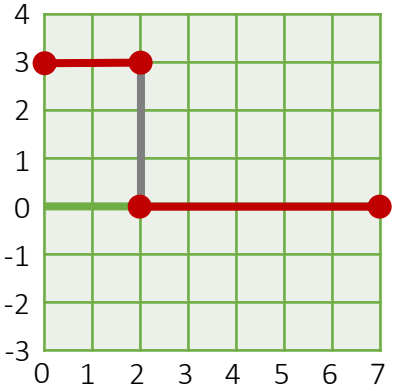


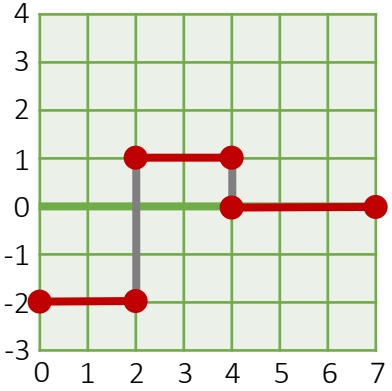


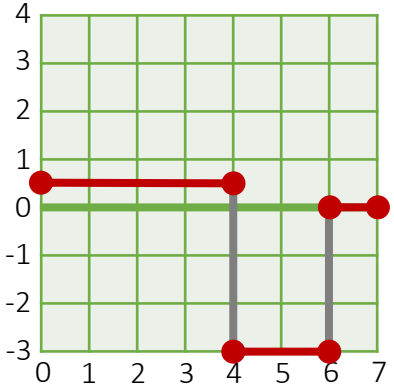


v





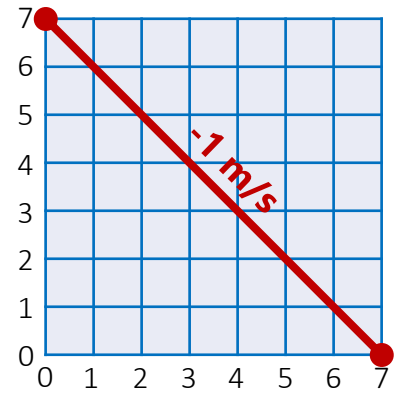


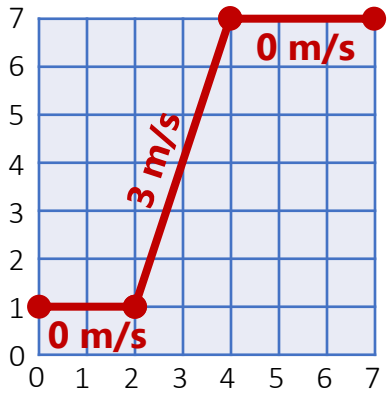


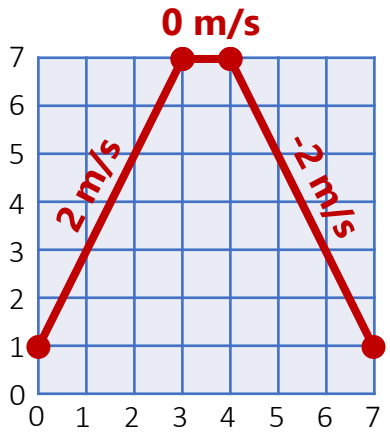
Drawing Motion Graphs = Level 2 =

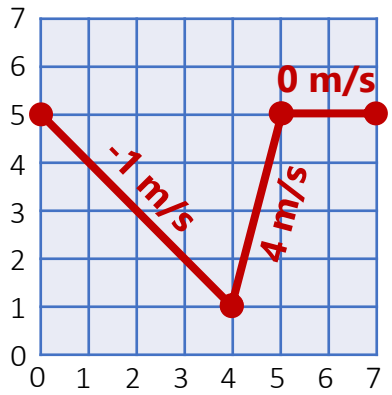
Convert the following Velocity vs. Time graphs into Displacement vs. Time graphs

d

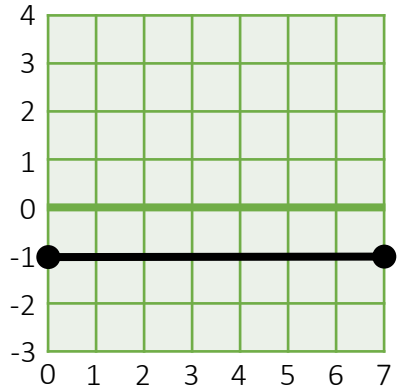


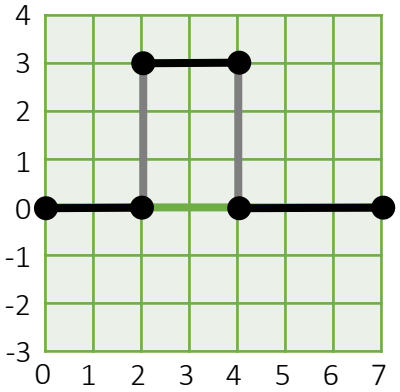


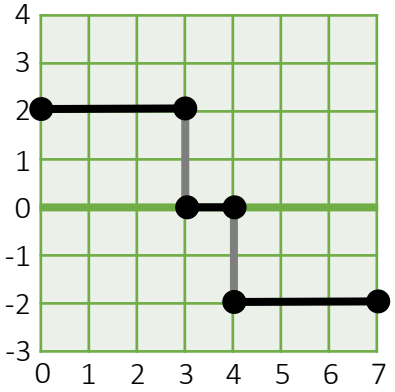


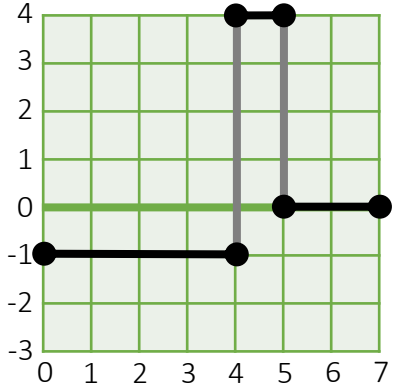


v





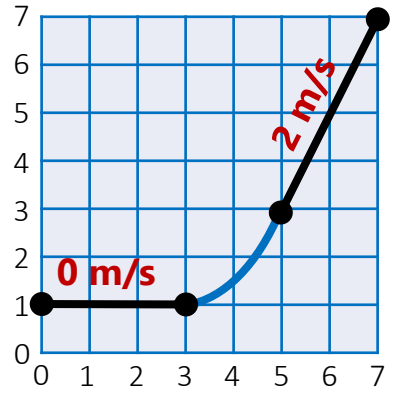


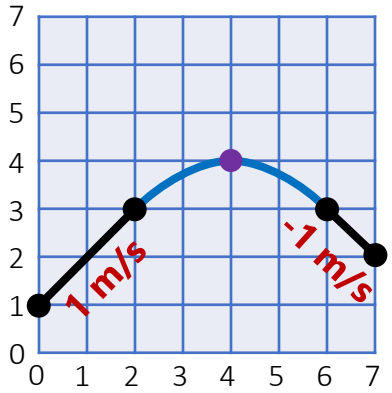


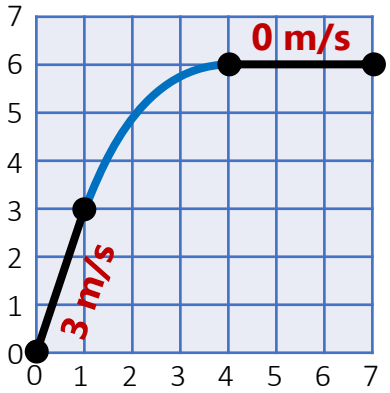
Drawing Motion Graphs = Level 3 =

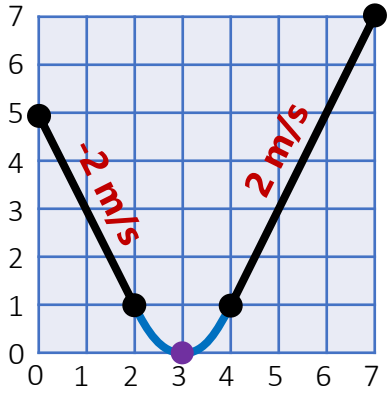
Convert the following Displacement vs. Time graphs into Velocity vs. Time graphs

d

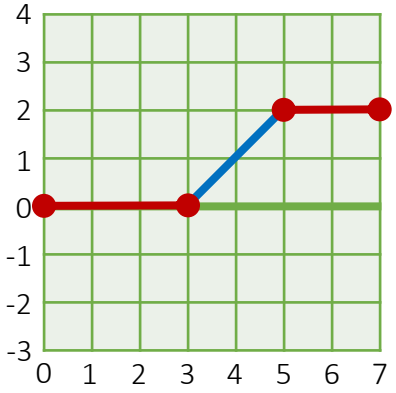


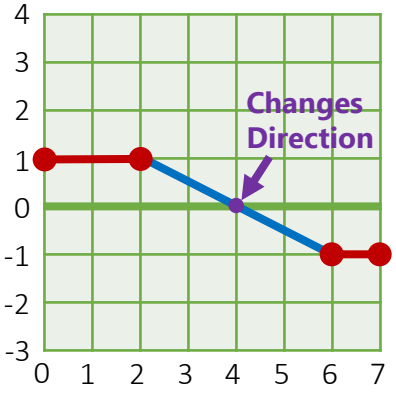


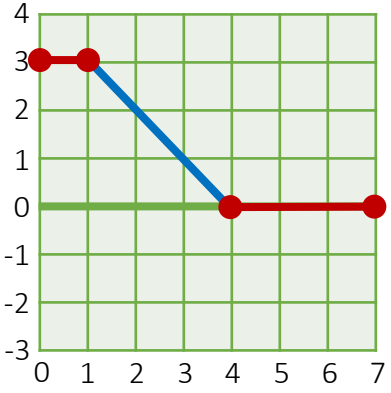


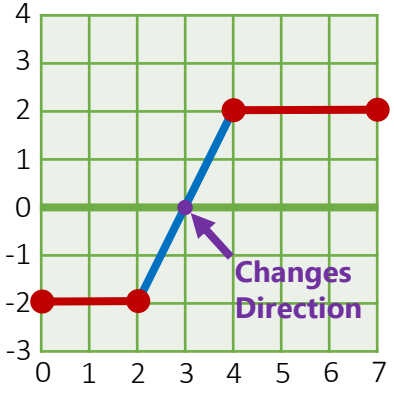


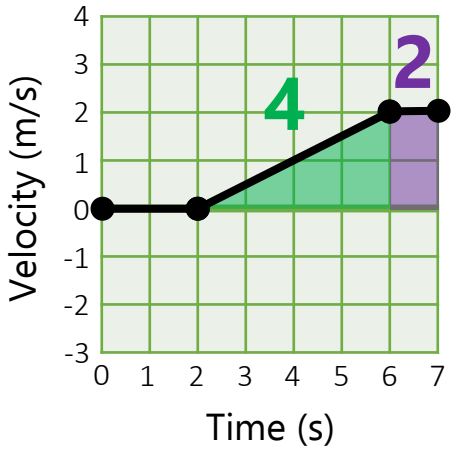
v









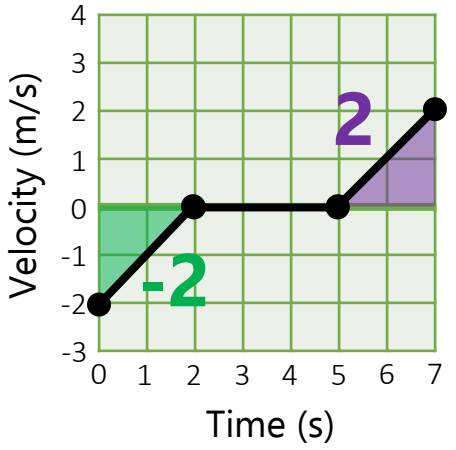


What is the acceleration between 2-5 seconds?

Acceleration = slope = **0.5 m/s²** (or 0.5 m/s/s)

What the total displacement represented in this graph?

Displacement = area = (½)(4)(2)+(1)(2) = **6 m**



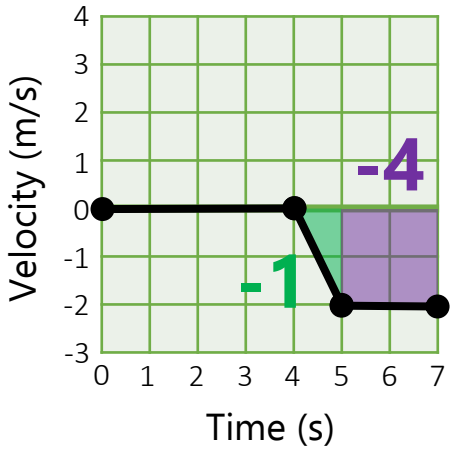
What is the acceleration between 2-5 seconds?

Acceleration = slope = **0 m/s²** (or 0 m/s/s)

What the total displacement represented in this graph?

Displacement = area = (½)(2)(-2) + (½)(2)(2)

= **0 m**



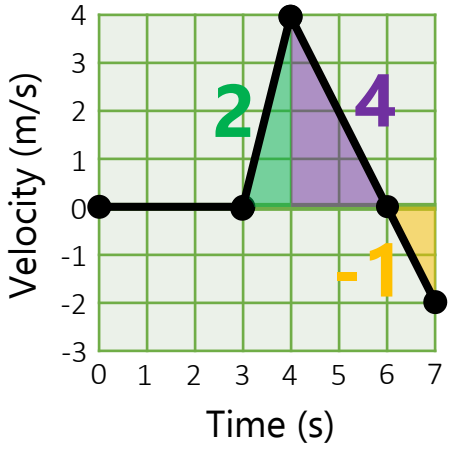
During which interval is it moving in the negative direction?

Velocity is negative from 4 s to 7 s

What the total displacement represented in this graph?

Displacement = area = (½)(1)(-2) + (2)(-2)

= **-5 m**



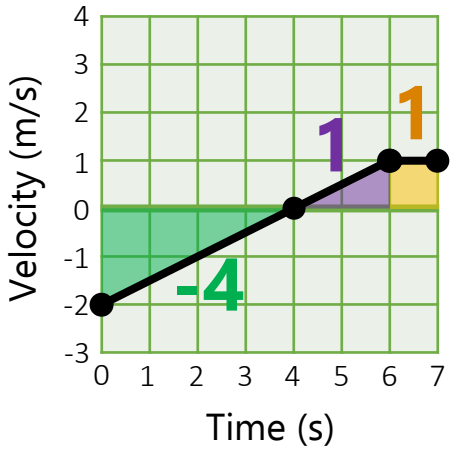
What is the significance of the point at 6 seconds?

This is when the object changes direction

What the total displacement represented in this graph?

Displacement = area

= (½)(1)(4) + (½)(2)(4) + (½)(1)(-2) = **5 m**



Describe the motion between 0-6 seconds

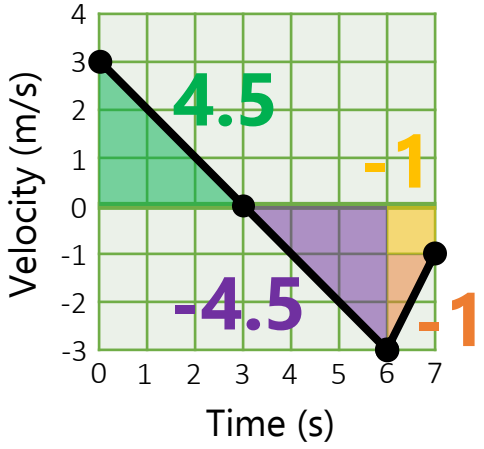
Moving backward (negative velocity) from 0-4 s

Moving forward (positive velocity) from 4-6 s

What the total displacement represented in this graph?

Displacement = area

= (½)(4)(-2) + (½)(2)(1) + (1)(1) = **-2 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

= (½)(3)(3) + (½)(3)(-3) + (1)(1) + (½)(1)(-2) = **-2 m**