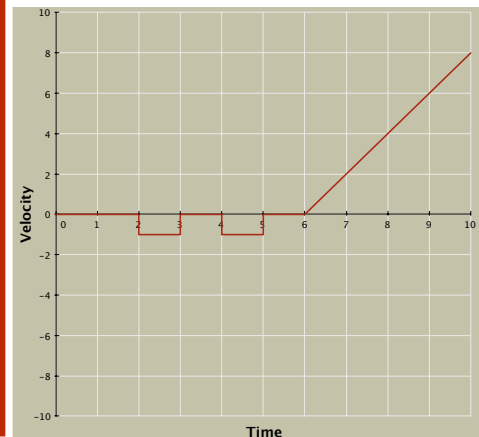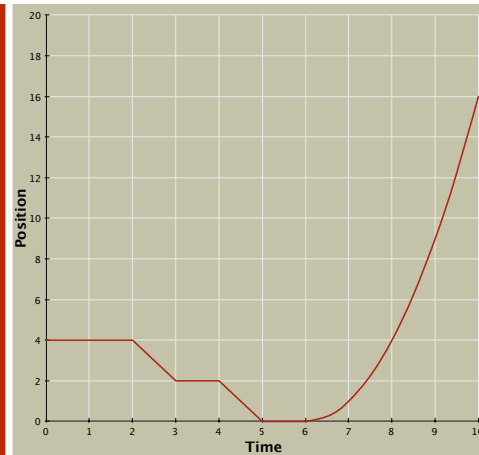# Motion Graphs

Kinematics Unit

Worksheets for Kinematics

By Robert Prior

Using motion graphs is an important skill. These worksheets provide students with practice interpreting and drawing motion graphs.

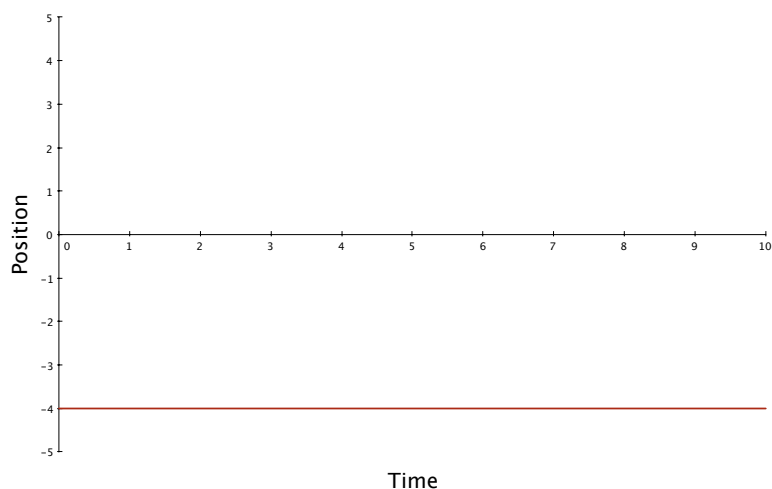| Expectations	
A1.12	use appropriate graphic modes of representation for qualitative and quantitative data
B2.2	analyse and interpret position-time, velocity-time, and acceleration-time graphs of motion in one dimension

Inside

Determine the motion shown by the following graphs. Select the best term from the list.

- ❏ at rest
- ❏ constant positive velocity
- ❏ constant negative velocity
- ❏ constant positive acceleration
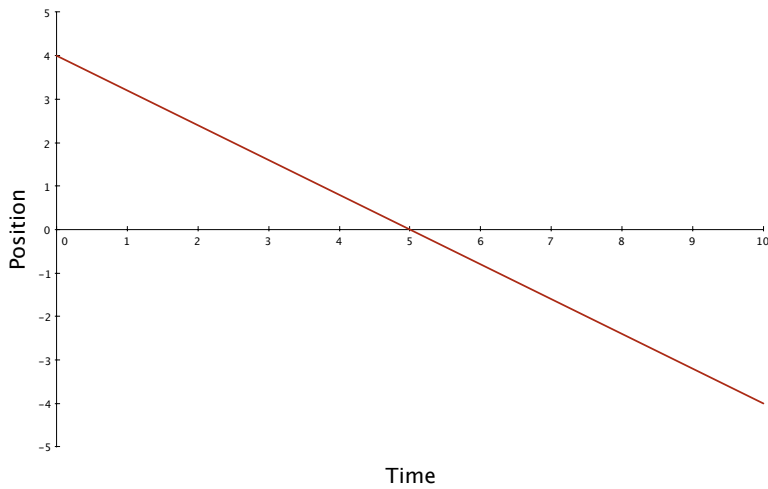- ❏ constant negative acceleration

- ❏ at rest
- ❏ constant positive velocity
- ❏ constant negative velocity
- ❏ constant positive acceleration
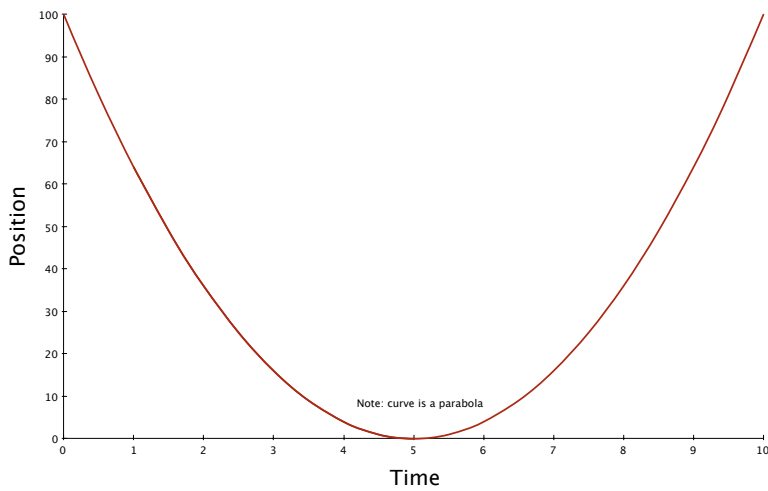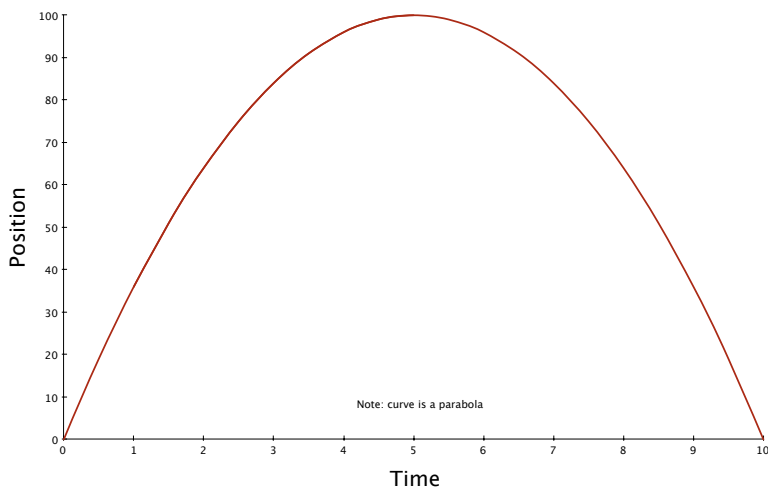- ❏ constant negative acceleration

- ❏ at rest
- ❏ constant positive velocity
- ❏ constant negative velocity
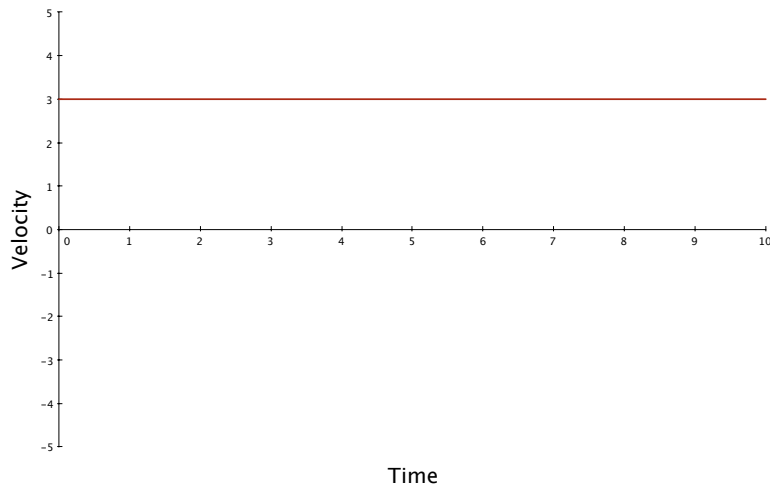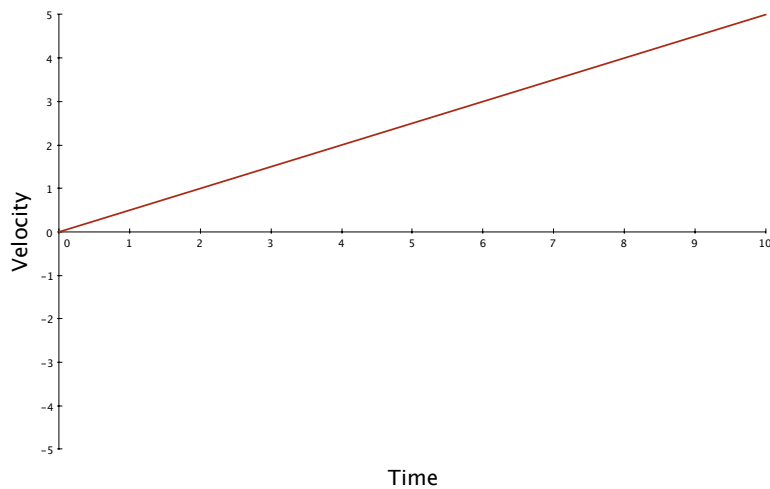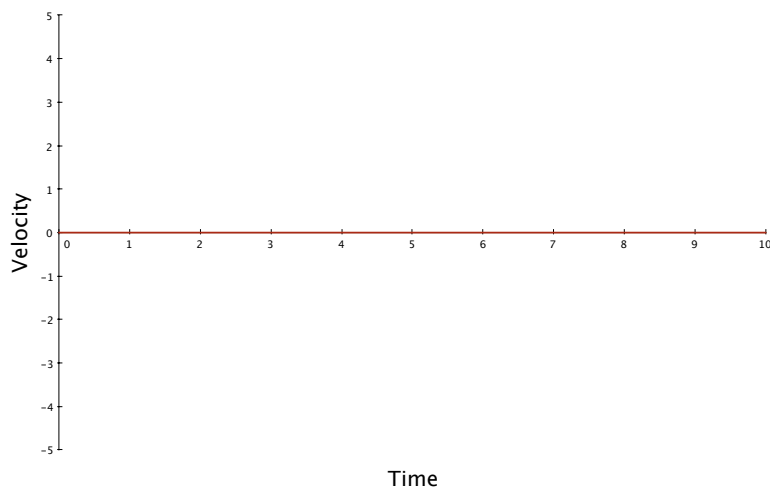- ❏ constant positive acceleration
- ❏ constant negative acceleration

Determine the motion shown by the following graphs. Select the best term from the list.

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

❏ constant positive acceleration

❏ constant negative acceleration

Note: curve is a parabola

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

❏ constant positive acceleration

❏ constant negative acceleration

Note: curve is a parabola

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

❏ constant positive acceleration

❏ constant negative acceleration

Determine the motion shown by the following graphs. Select the best term from the list.

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

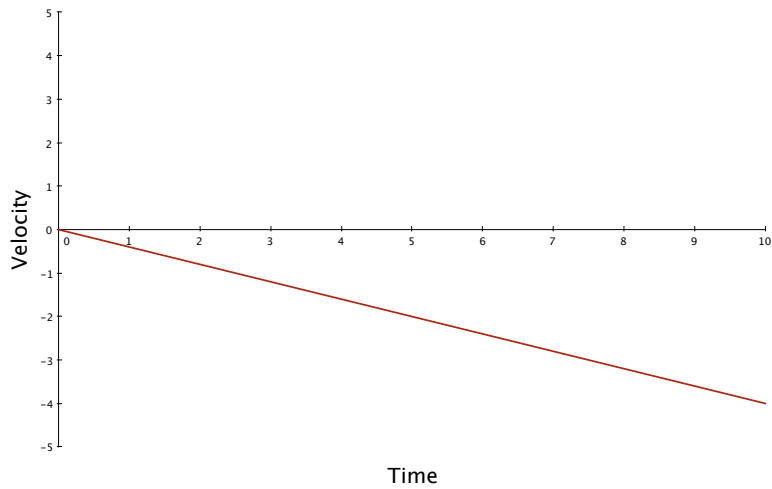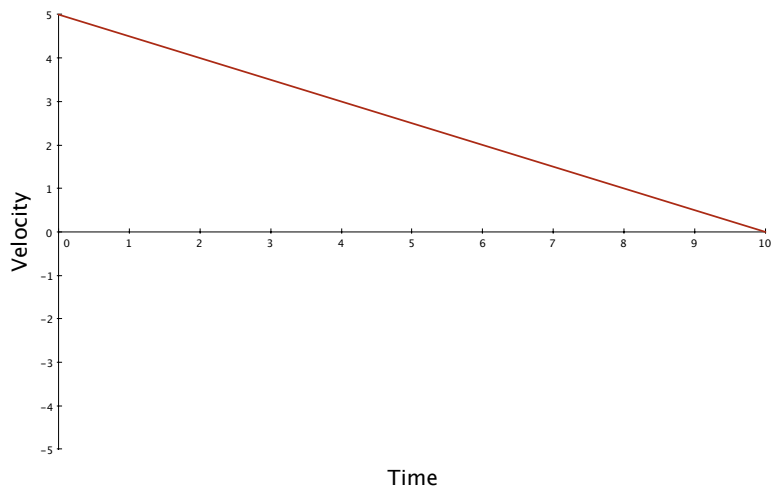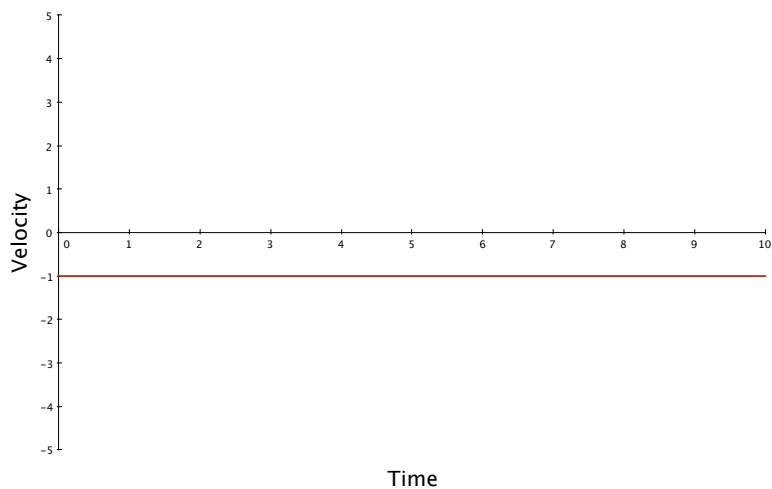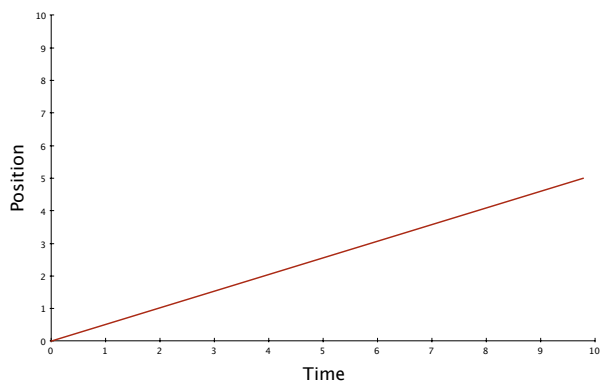❏ constant positive acceleration

❏ constant negative acceleration

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

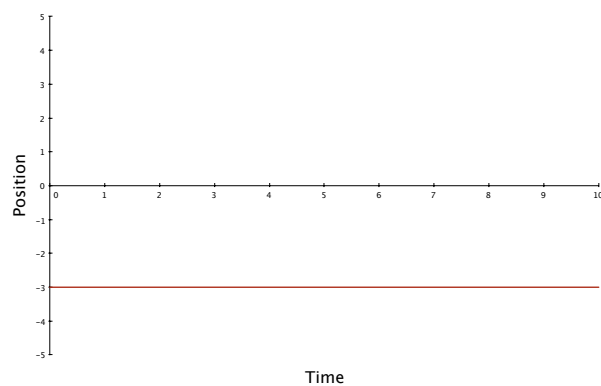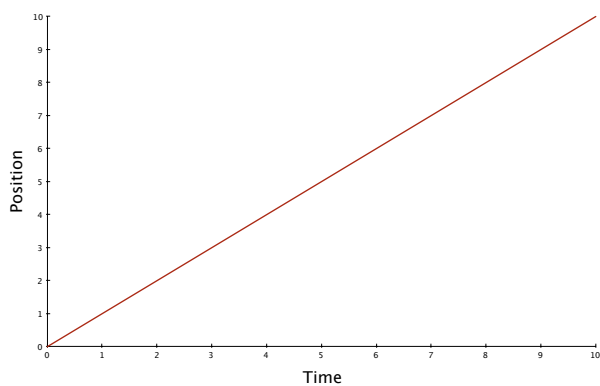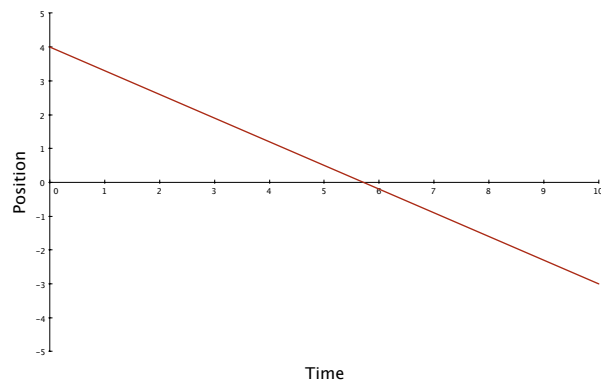❏ constant positive acceleration

❏ constant negative acceleration

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

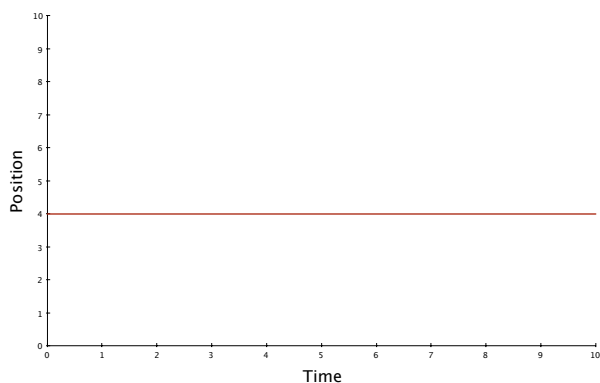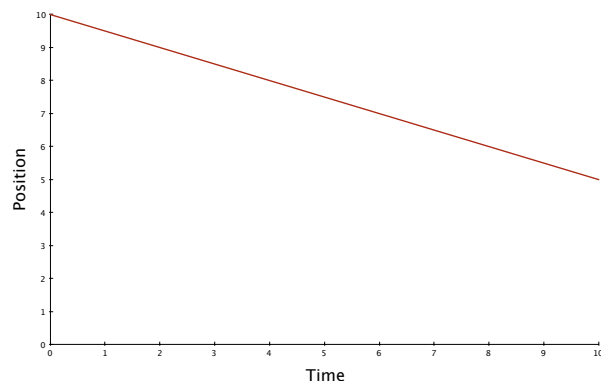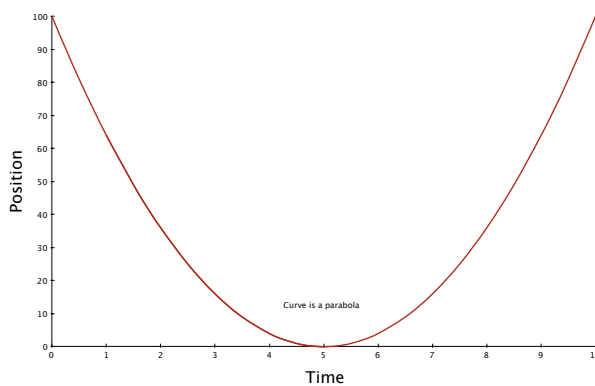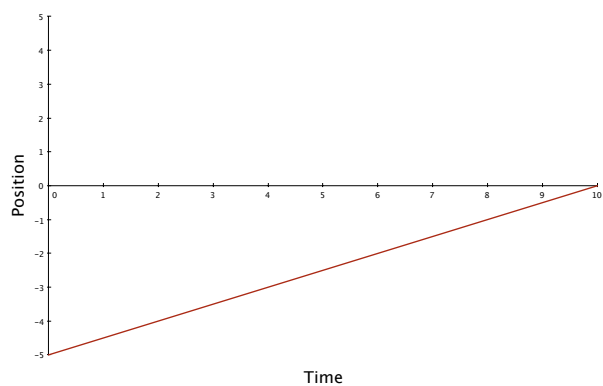❏ constant positive acceleration

❏ constant negative acceleration

Determine the motion shown by the following graphs. Select the best term from the list.

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

❏ constant positive acceleration

❏ constant negative acceleration

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

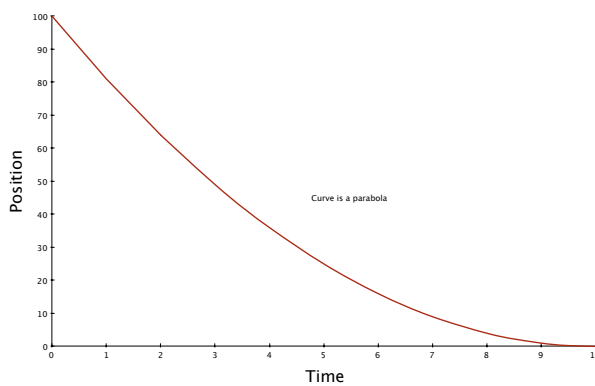❏ constant positive acceleration

❏ constant negative acceleration

❏ at rest

❏ constant positive velocity

❏ constant negative velocity

❏ constant positive acceleration
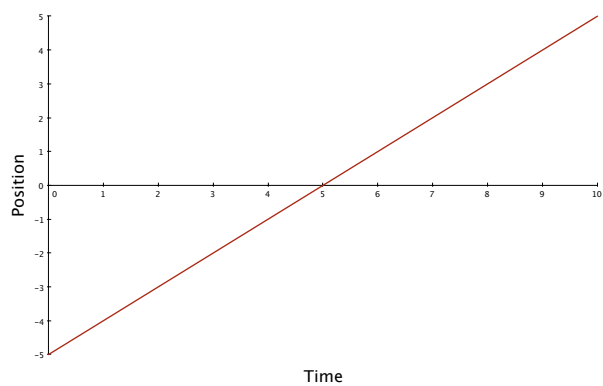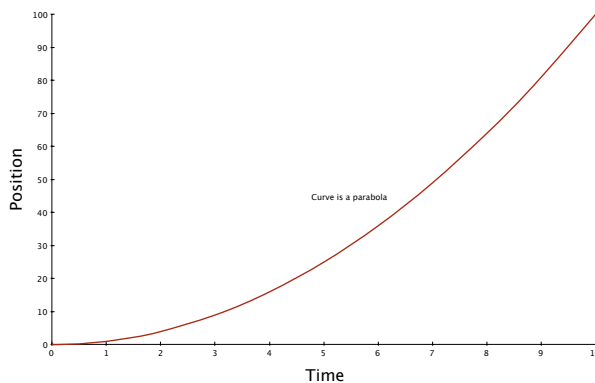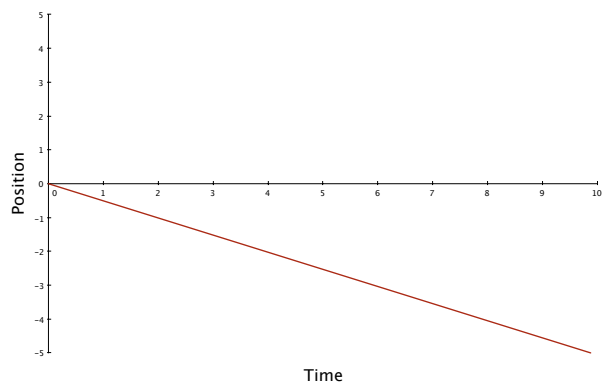
❏ constant negative acceleration

Describe the motion shown by the following graphs. Use terms like *constant positive velocity*, *at rest*, *positive acceleration from rest*, and so on.
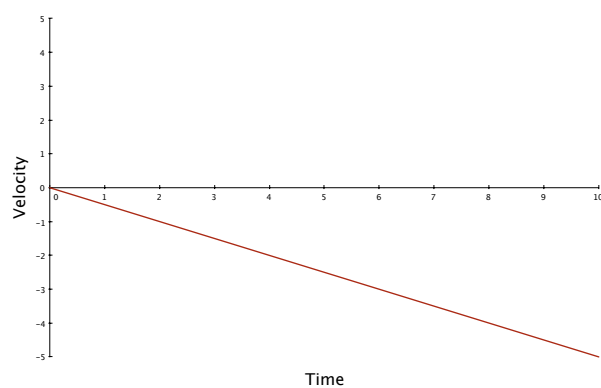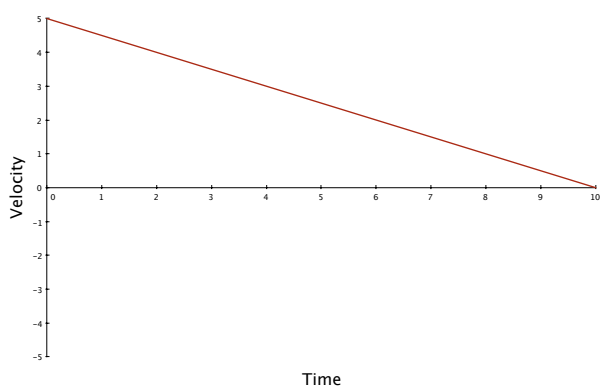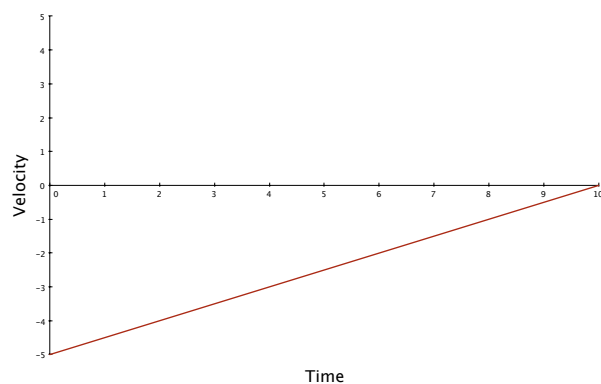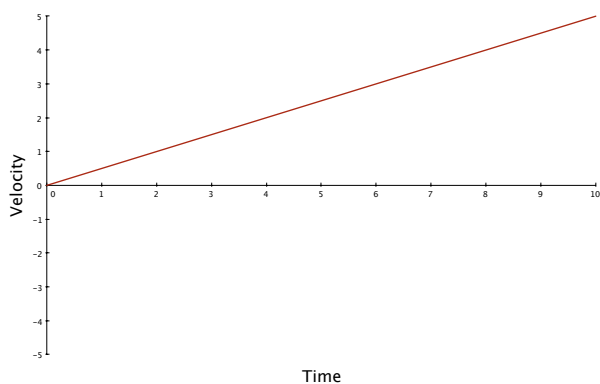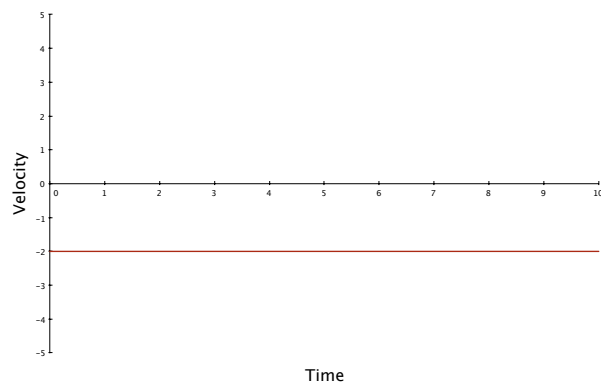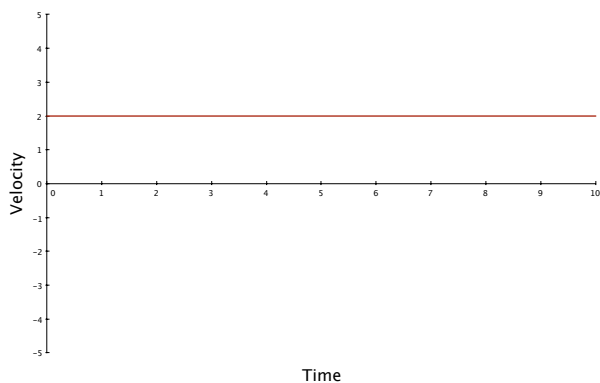
constant positive velocity
uniform motion (forward)

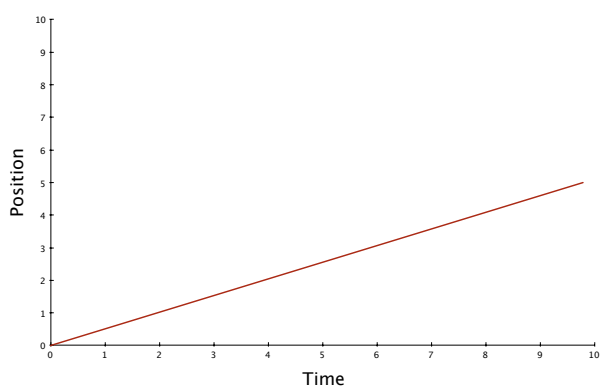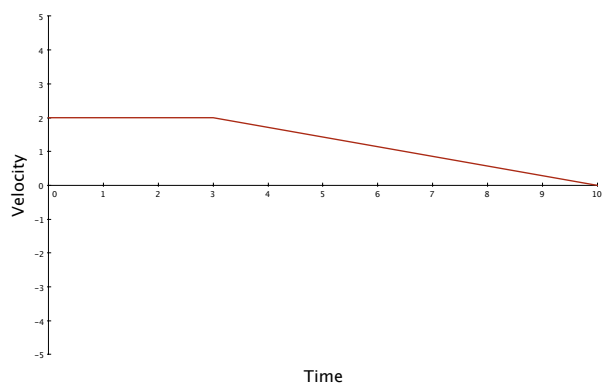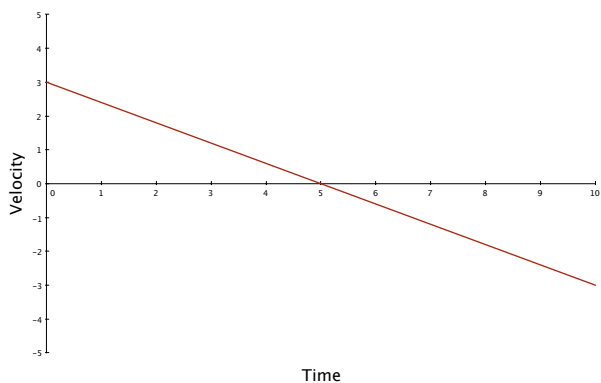**Describe the motion shown by the following graphs.** Use terms like *constant positive velocity*, *at rest*, *positive acceleration from rest*, and so on.

Curve is a parabola
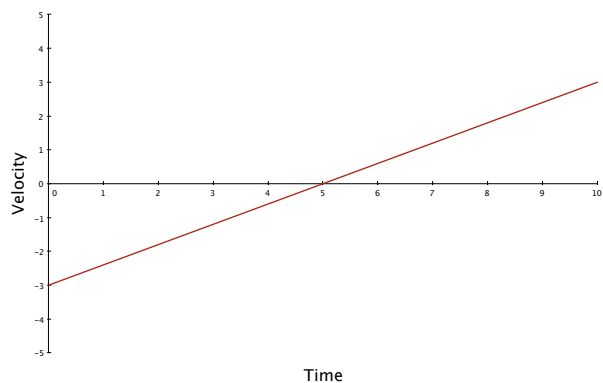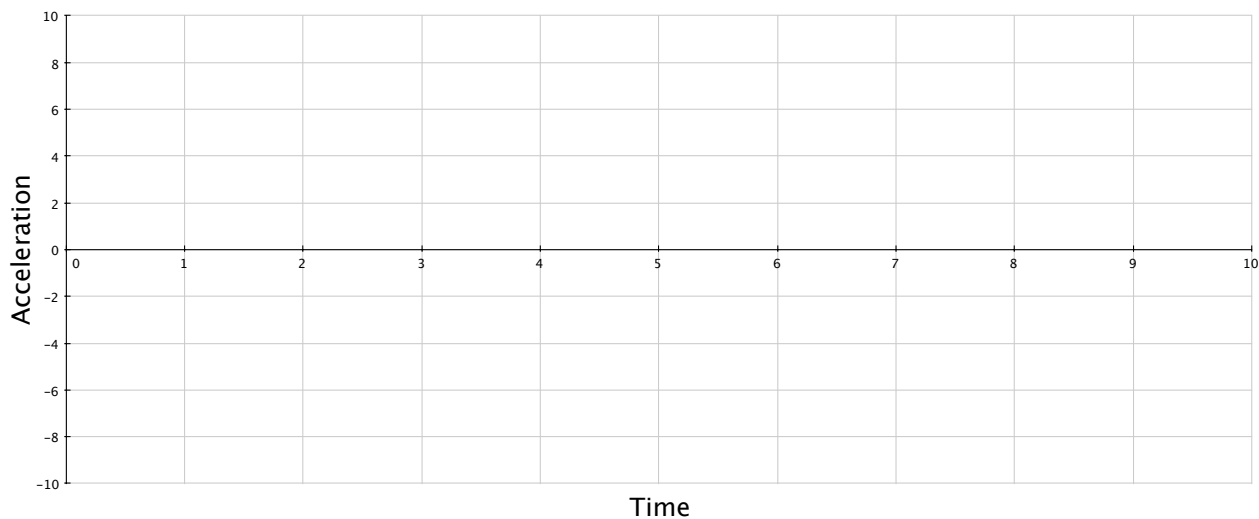

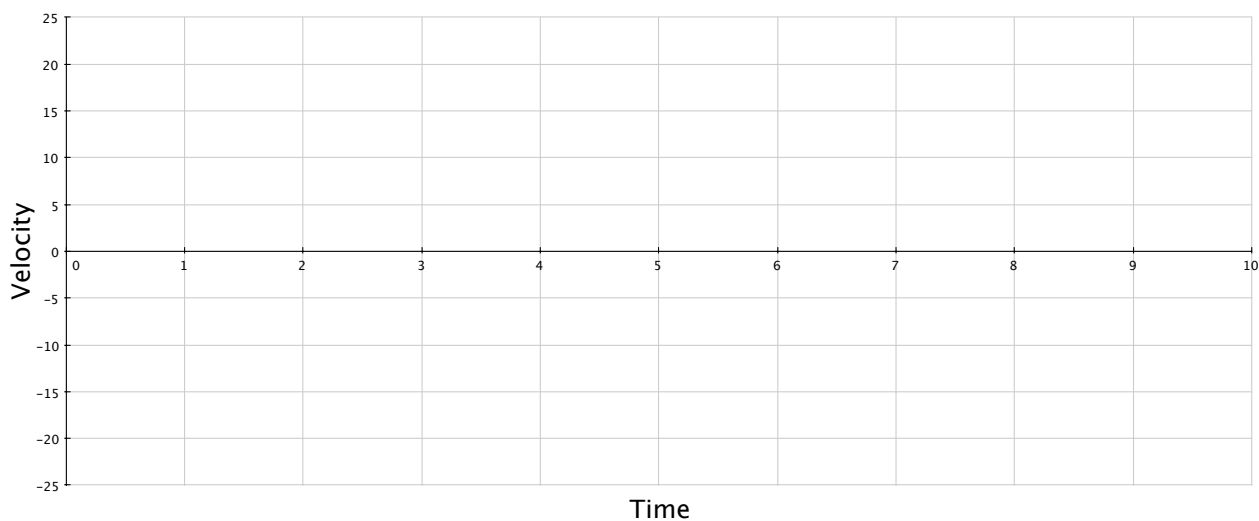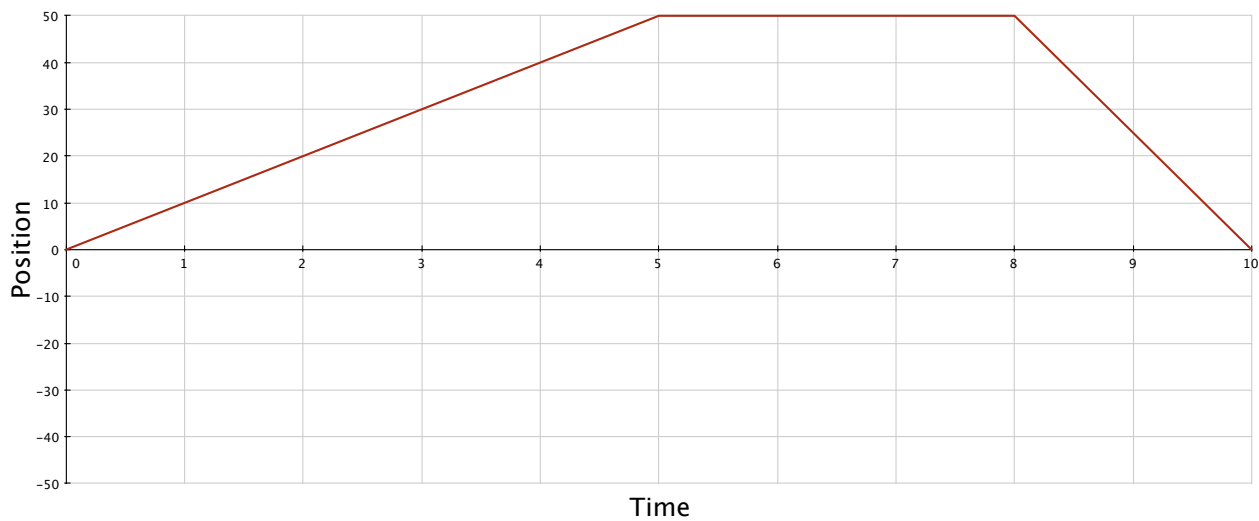Curve is a parabola
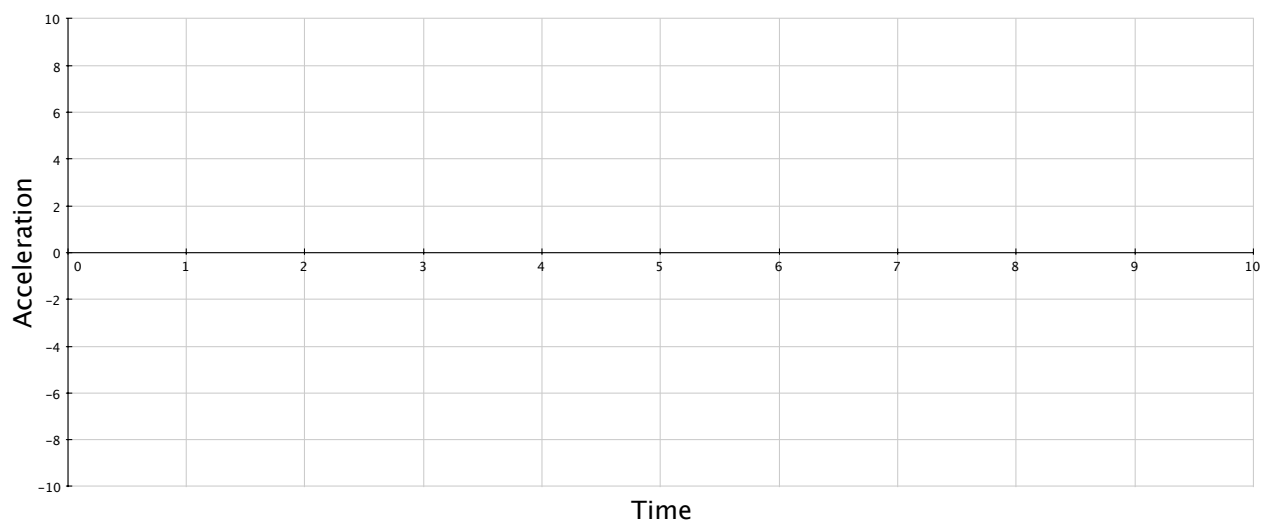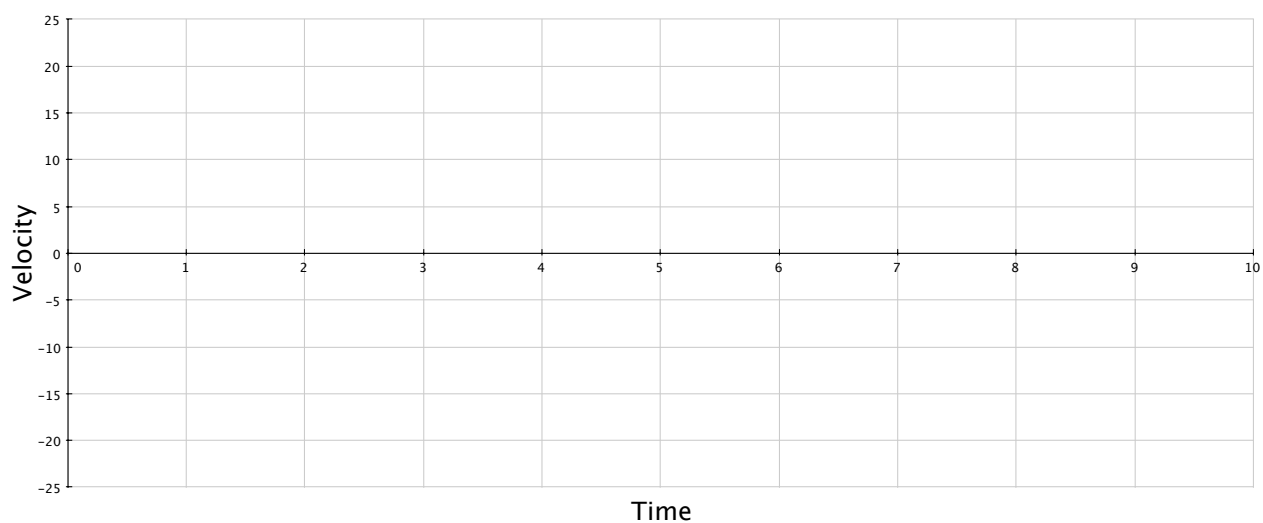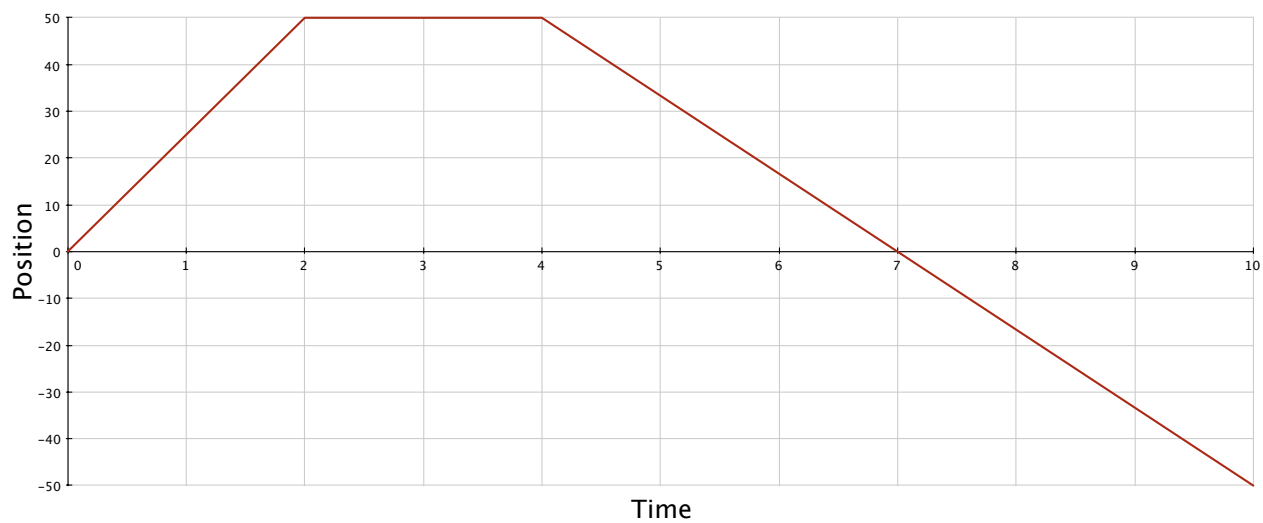

Curve is a parabola

Describe the motion shown by the following graphs. Use terms like *constant positive velocity*, *at rest*, *positive acceleration from rest*, and so on.
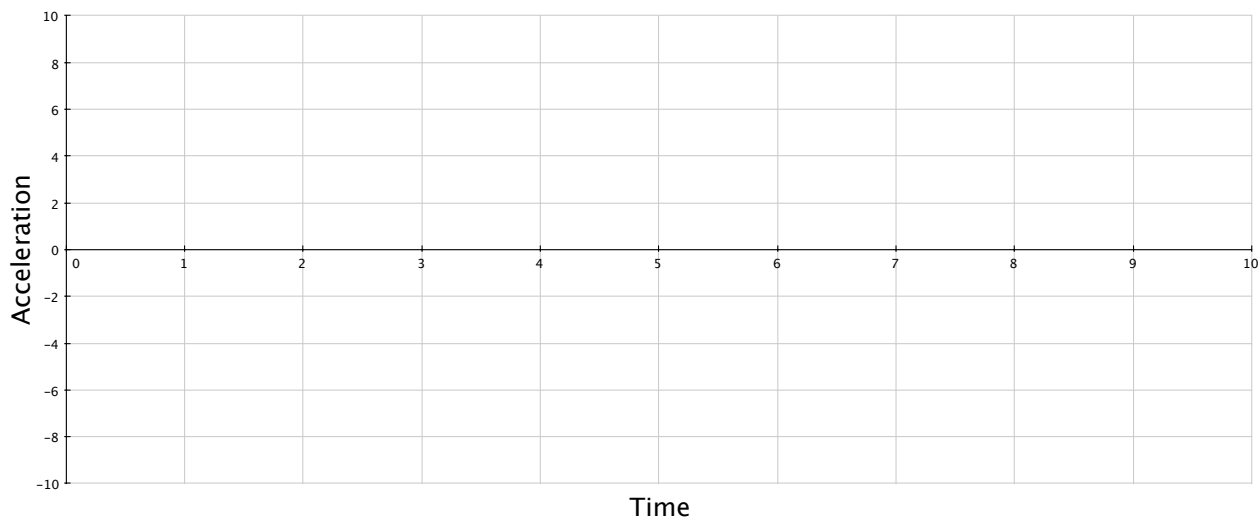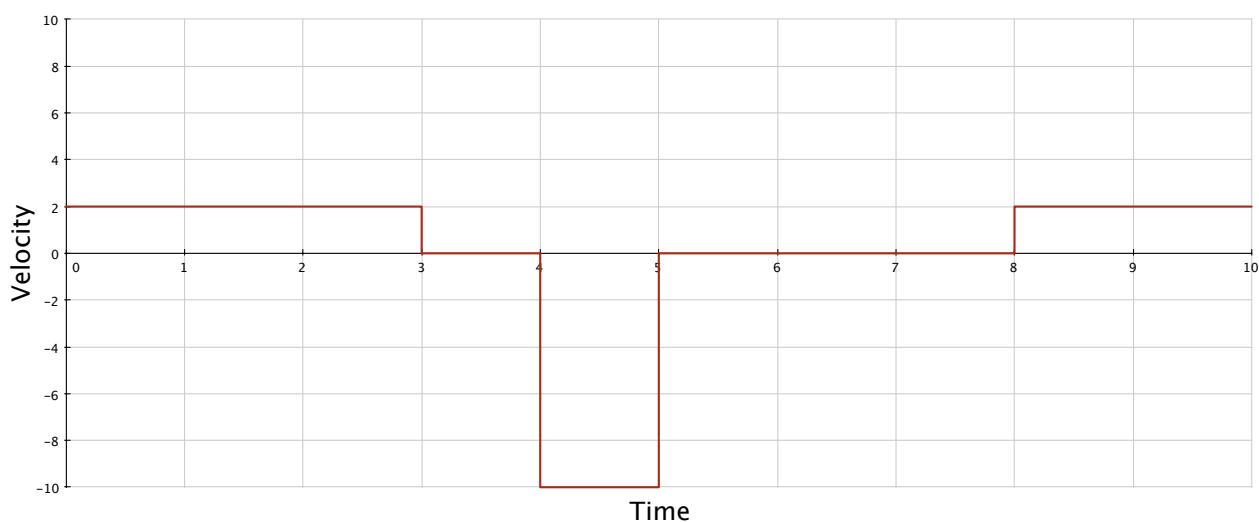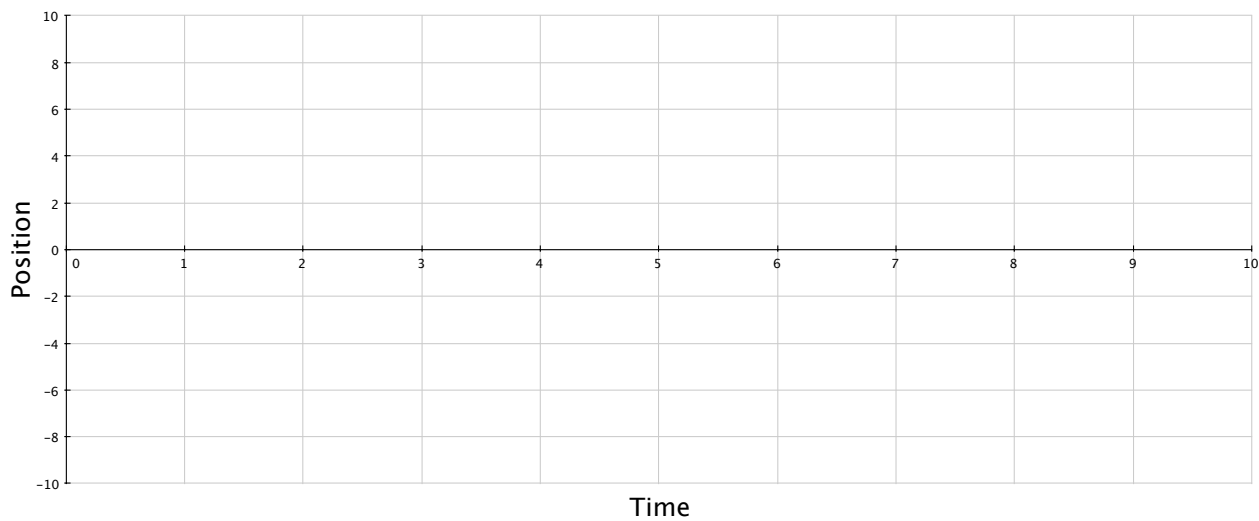
Describe the motion shown by the following graphs. Use terms like *constant positive velocity*, *at rest*, *positive acceleration from rest*, and so on.

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Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position / Time
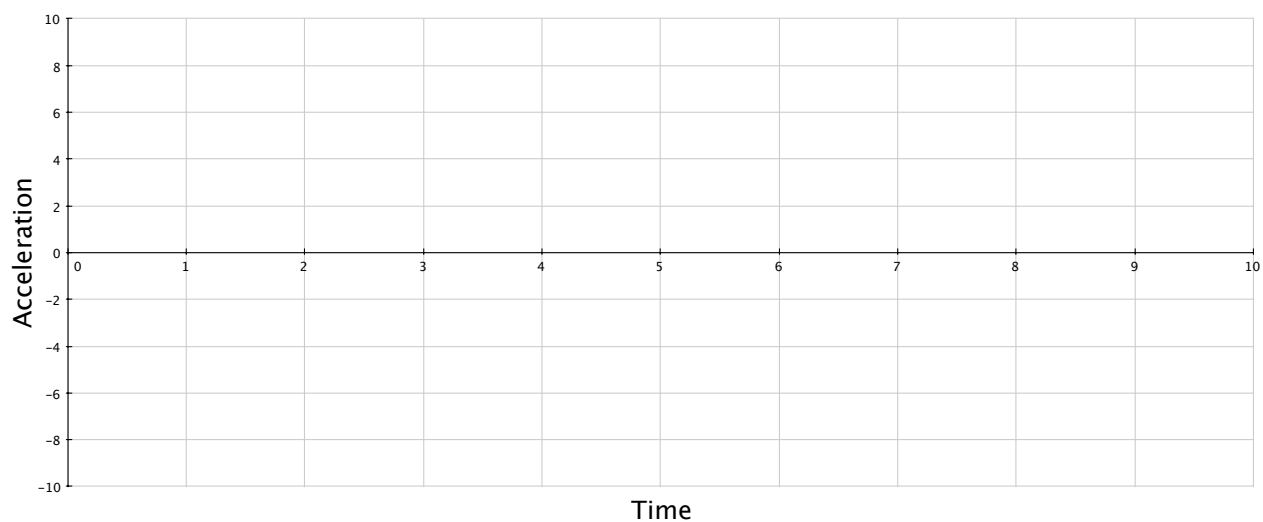
Velocity / Time

Acceleration / Time

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position vs Time

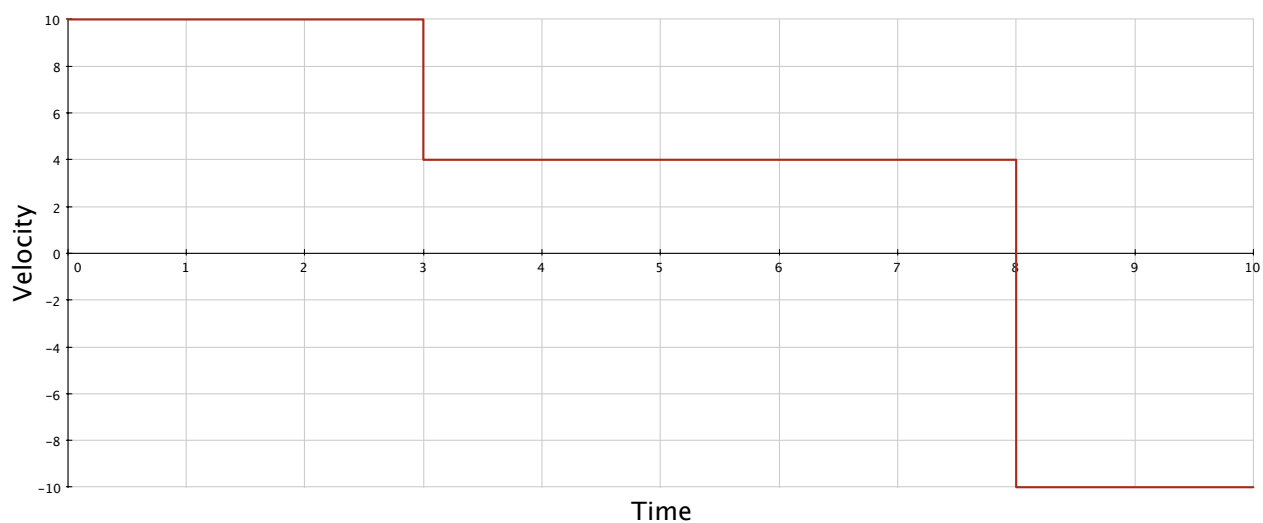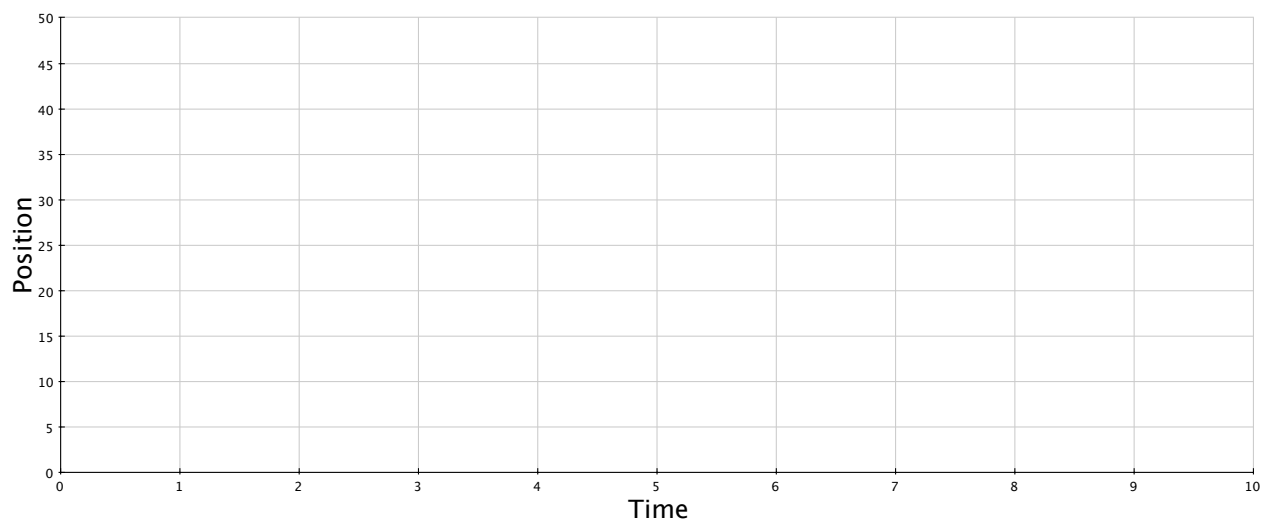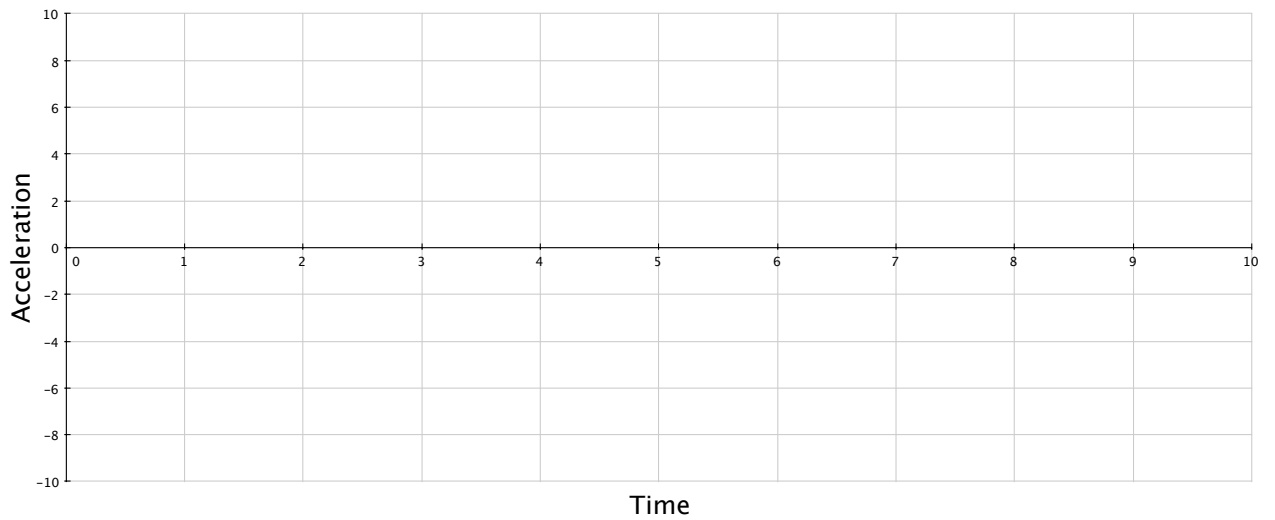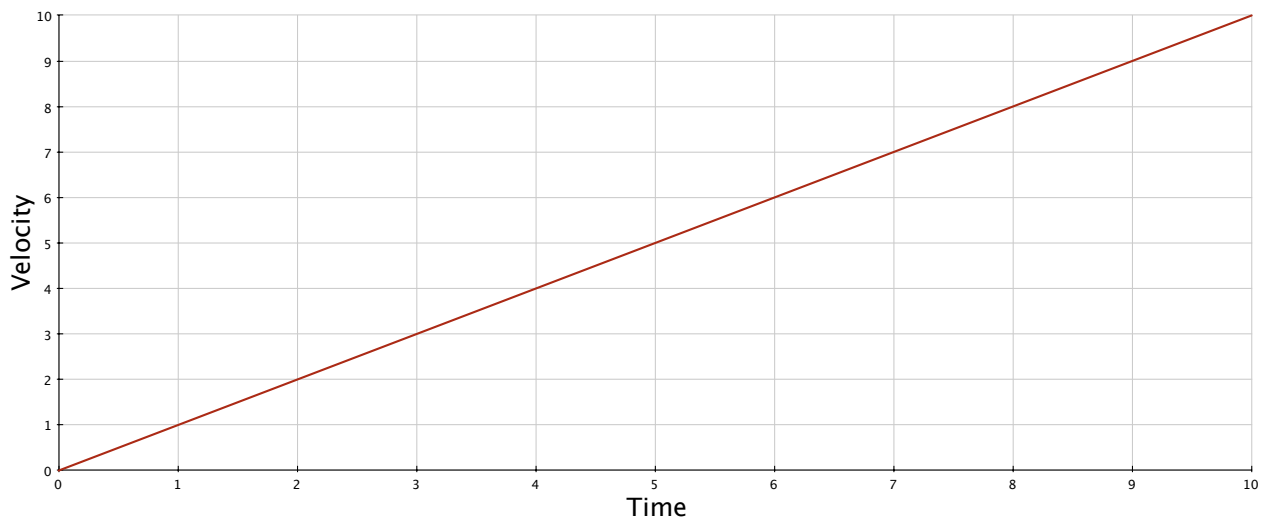Velocity vs Time

Acceleration vs Time

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.
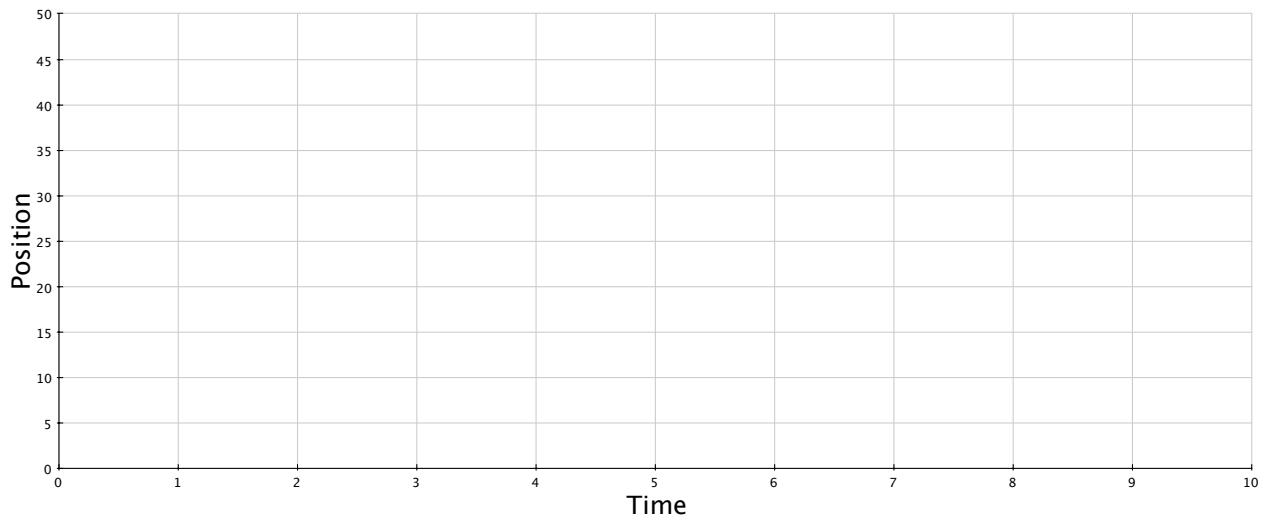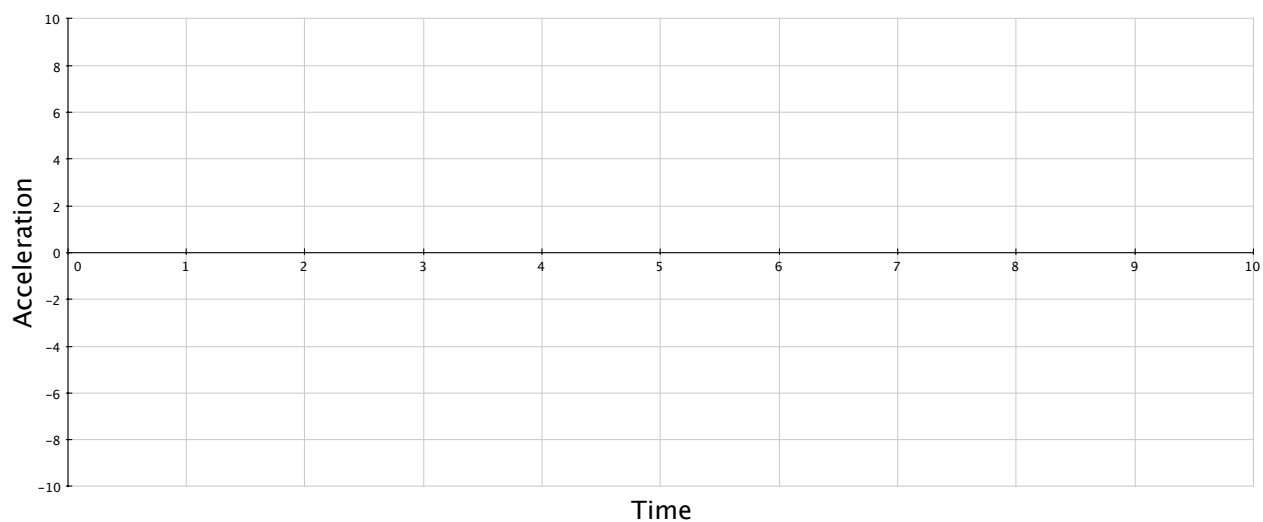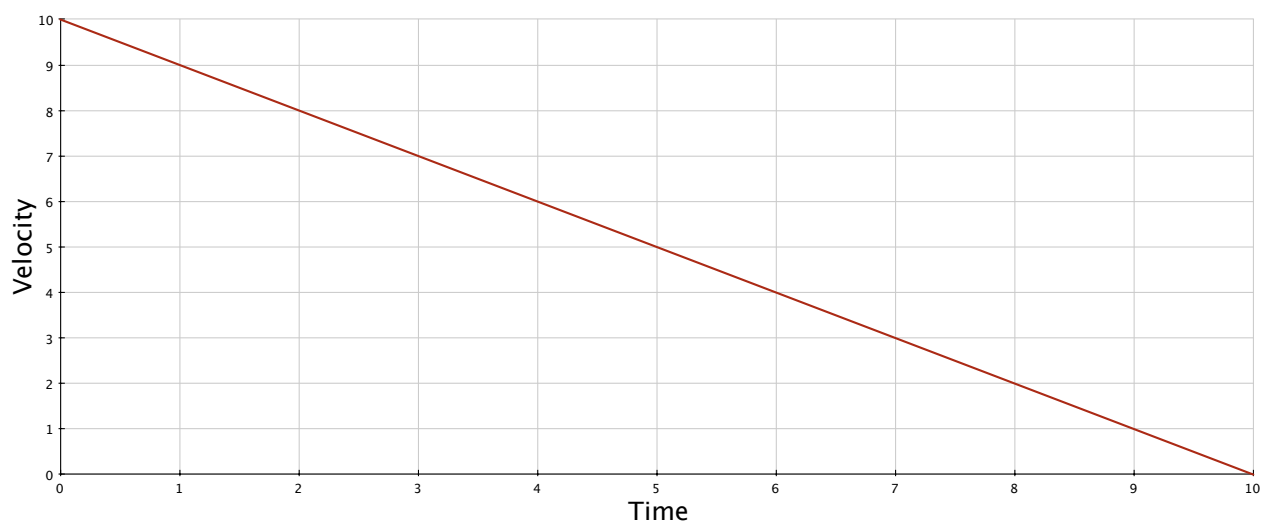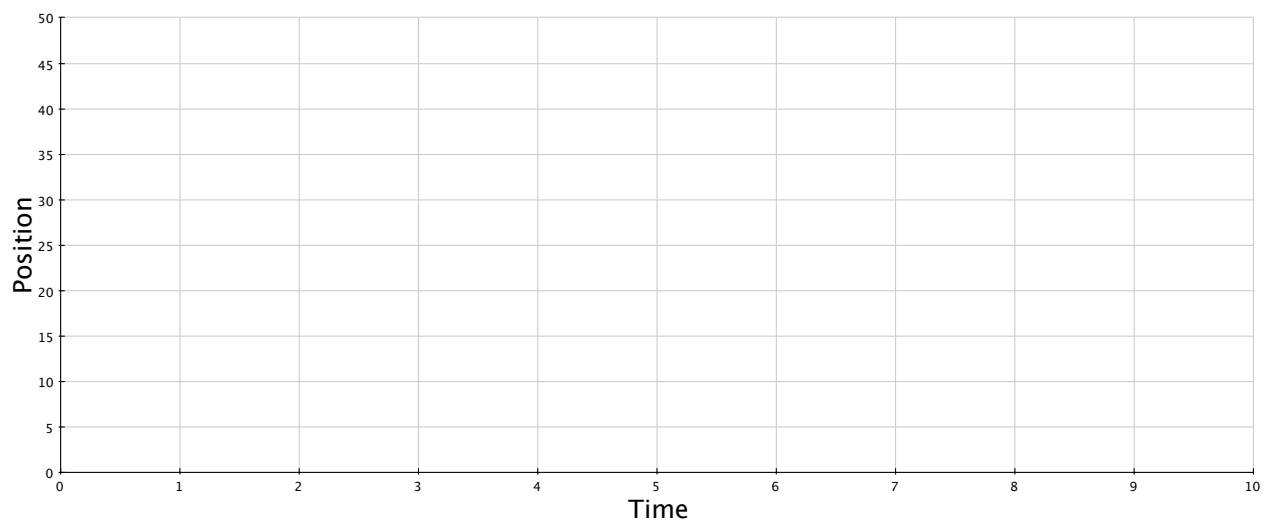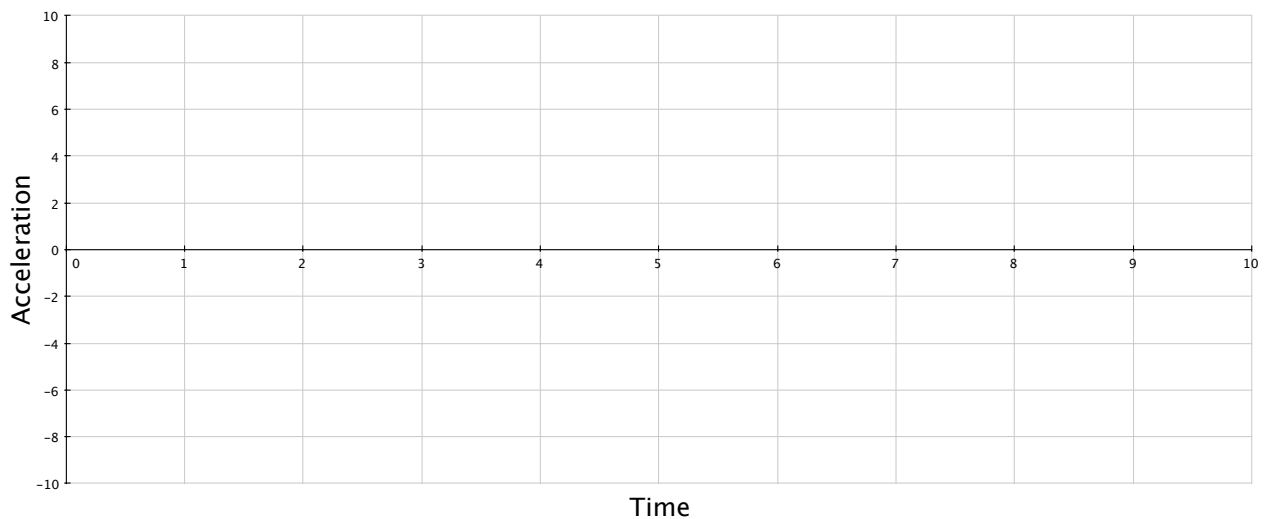
Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.
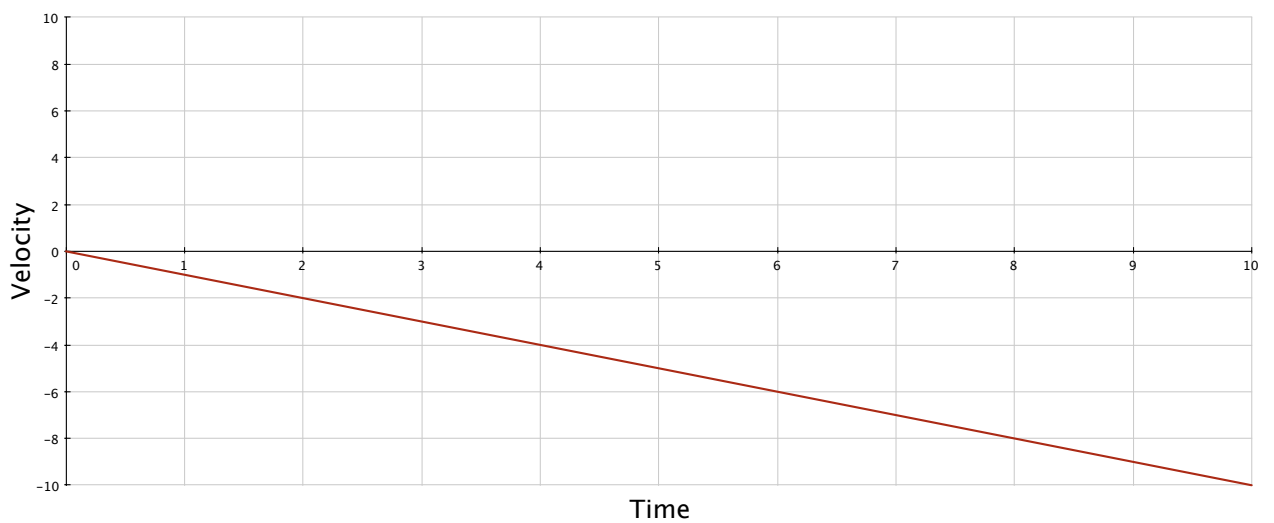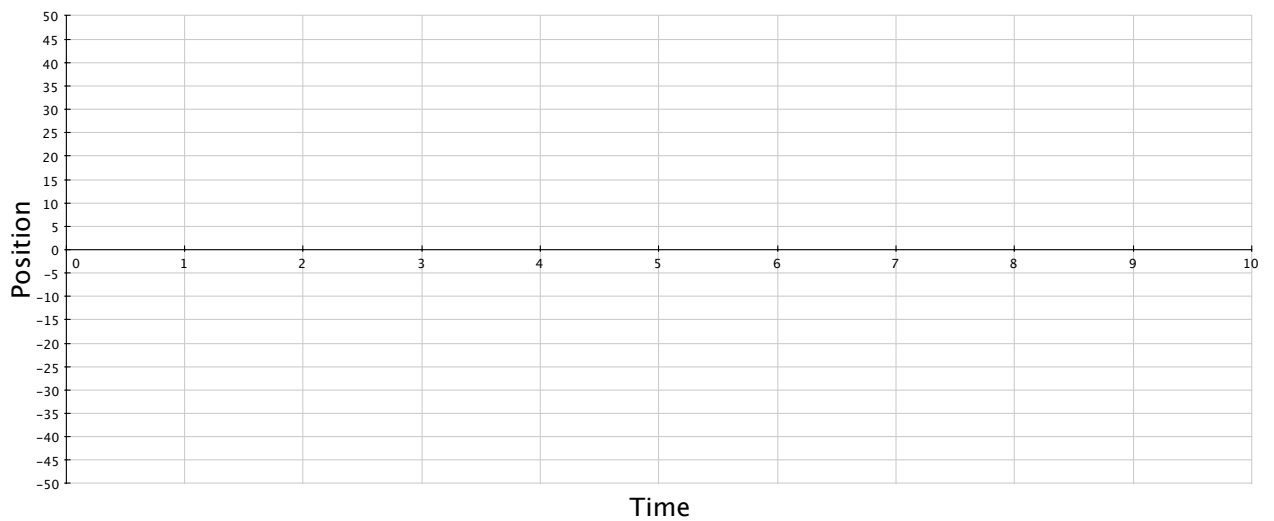
Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position vs. Time

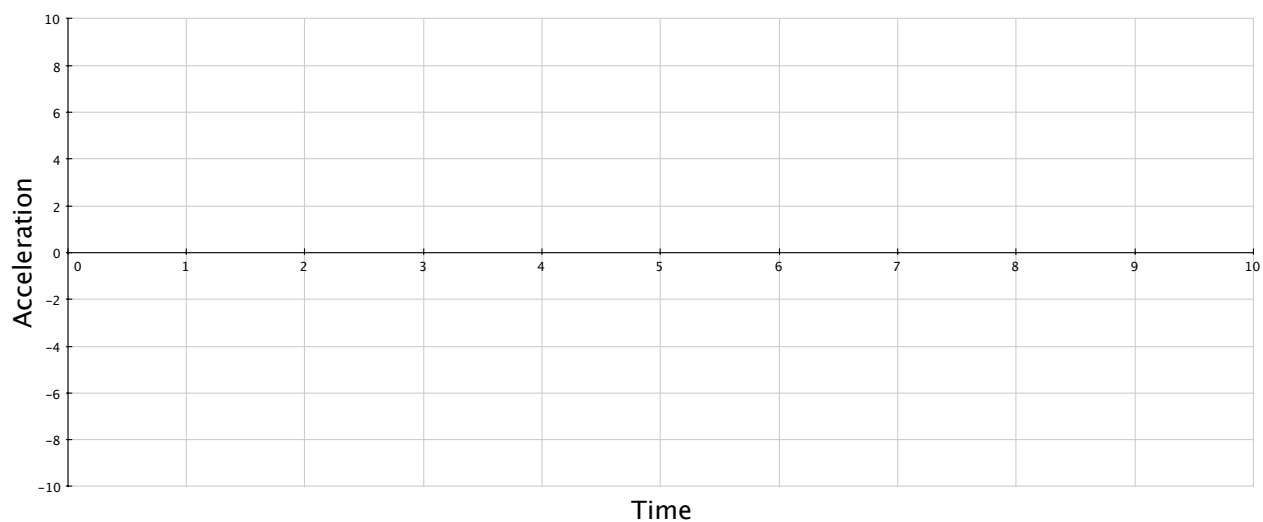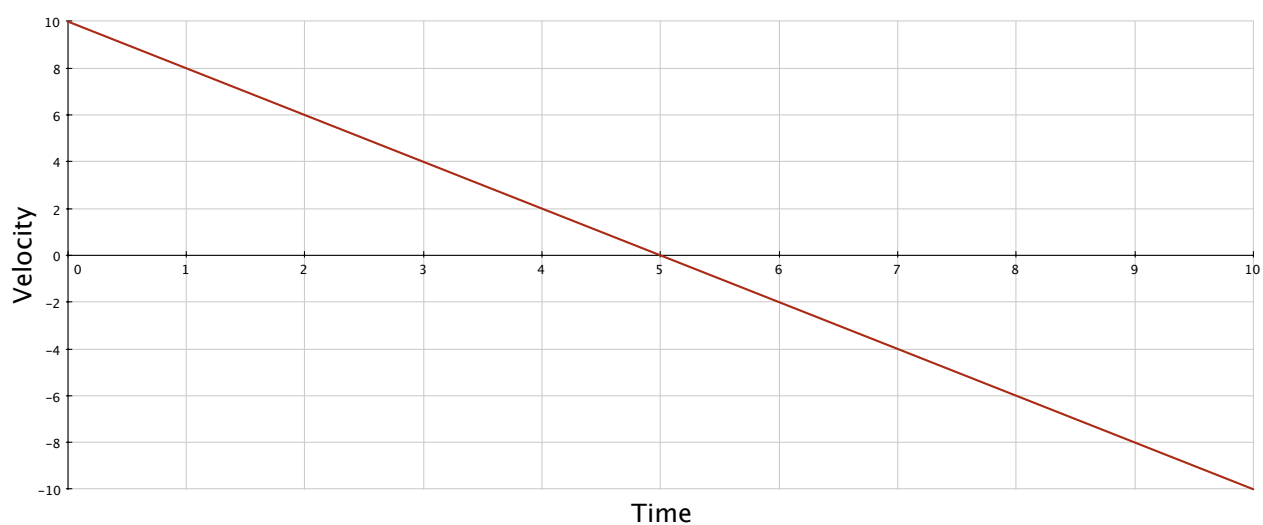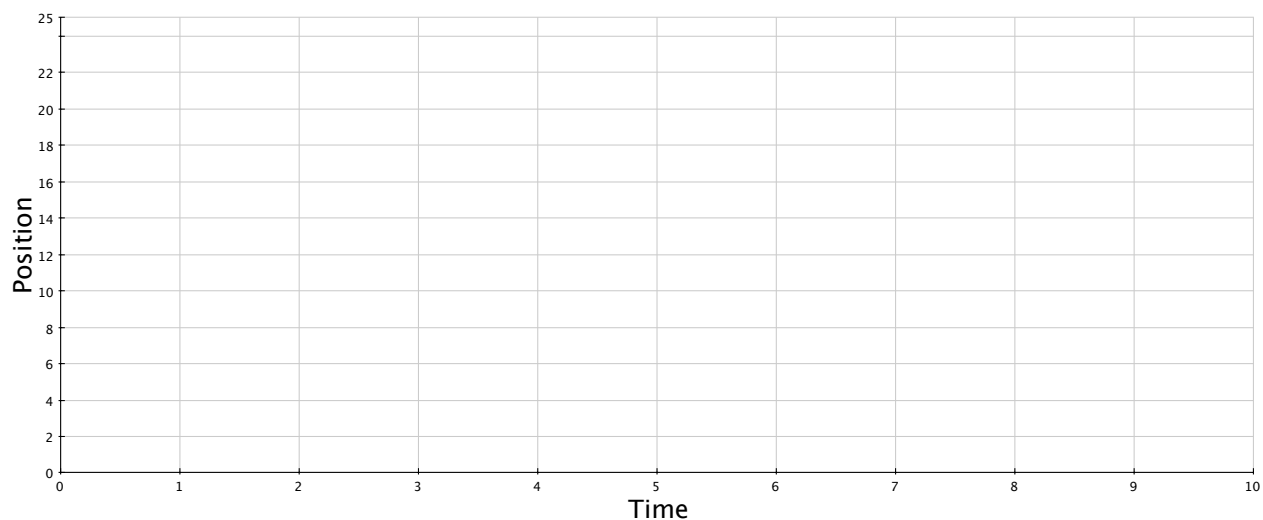Velocity vs. Time

Acceleration vs. Time

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position

Time

Velocity
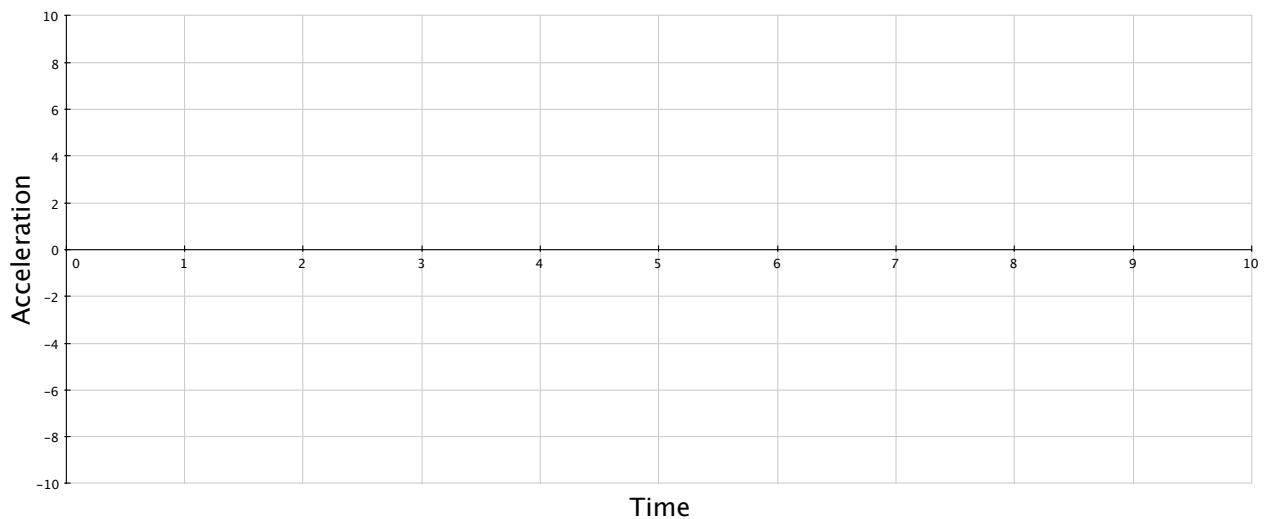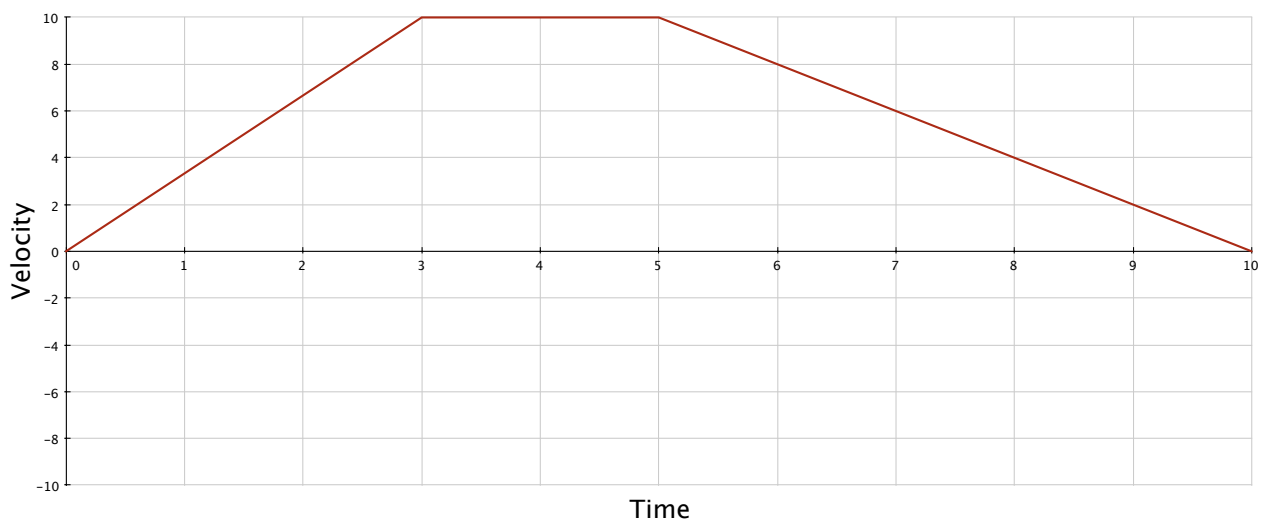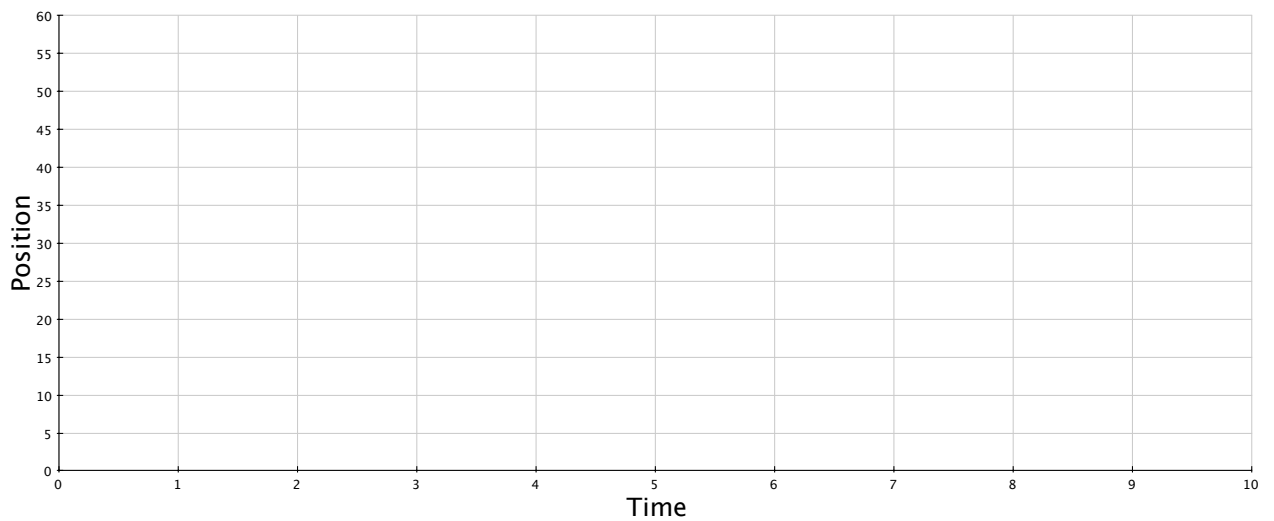
Time

Acceleration

Time

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position vs. Time

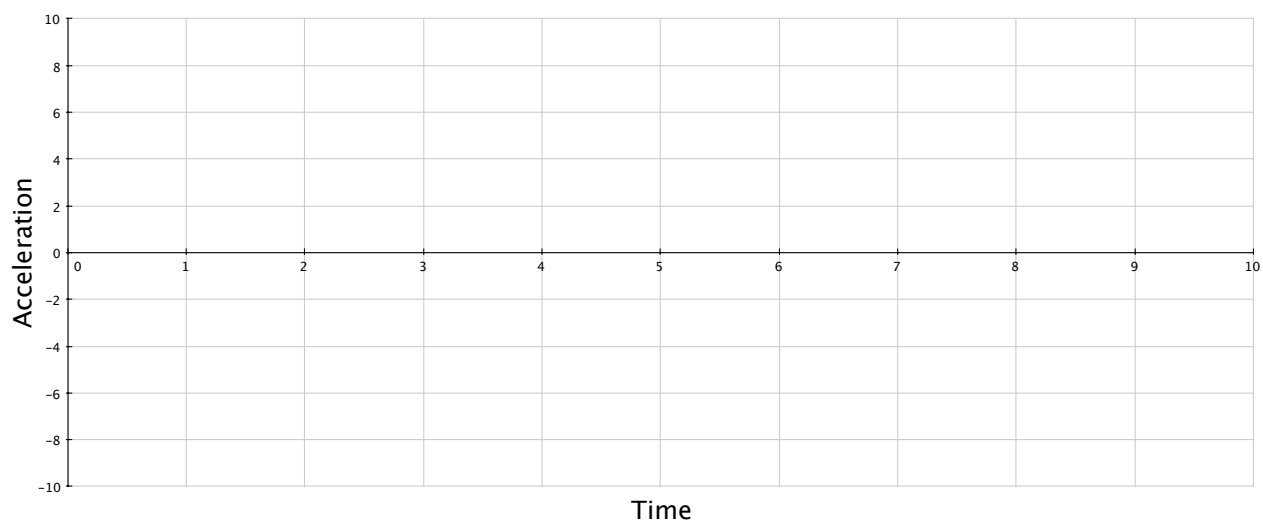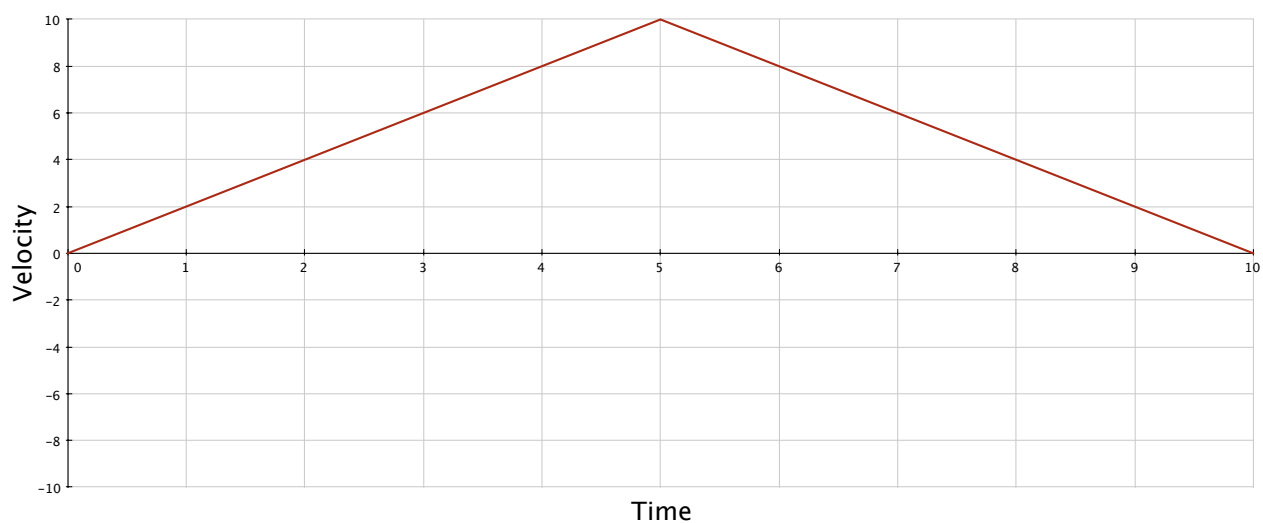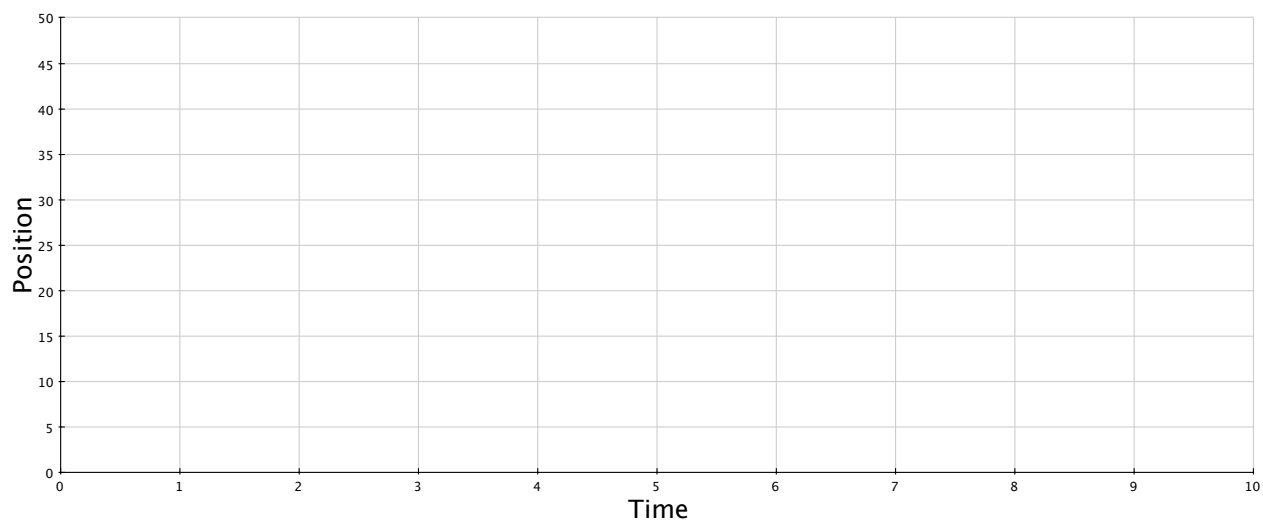Velocity vs. Time

Acceleration vs. Time

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.
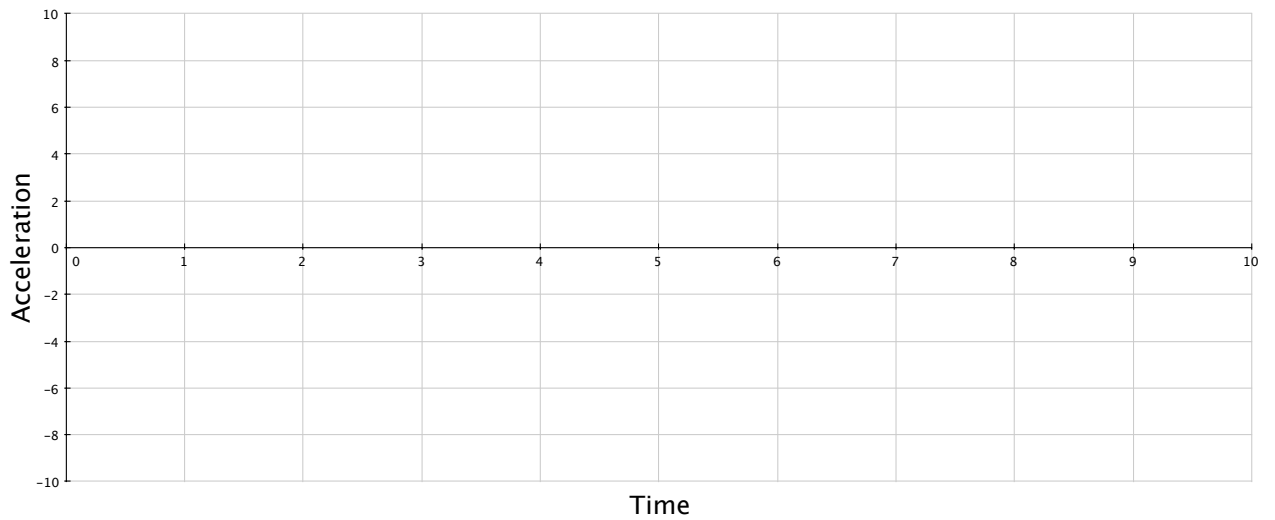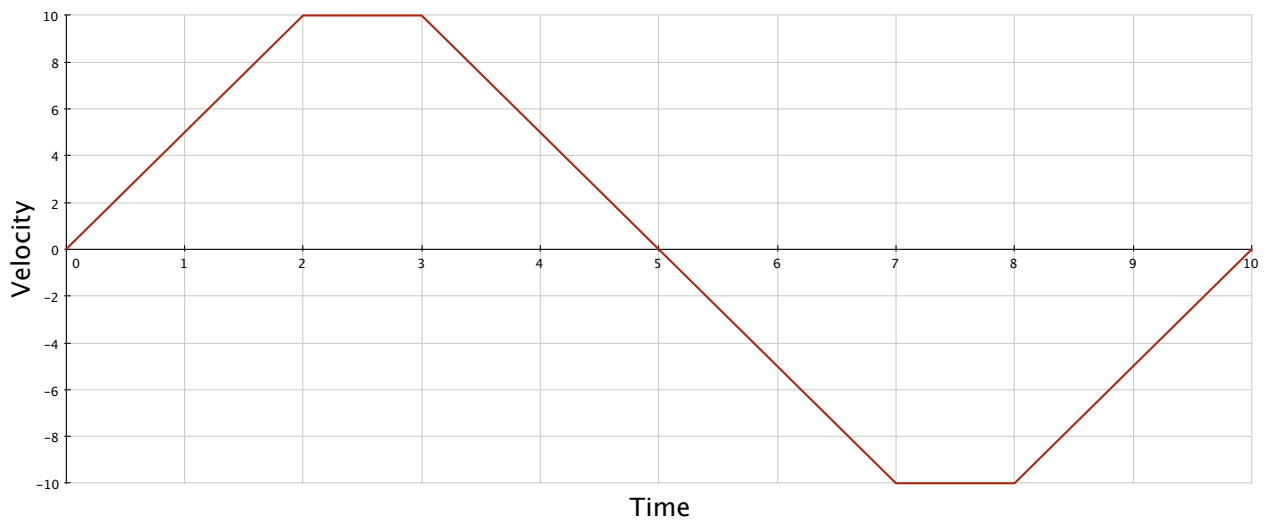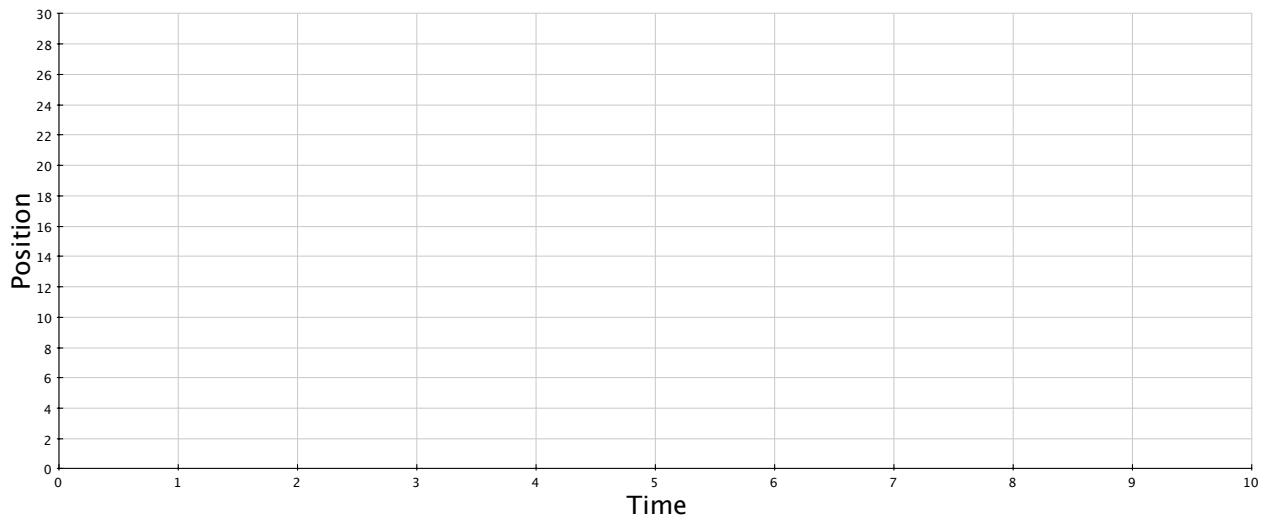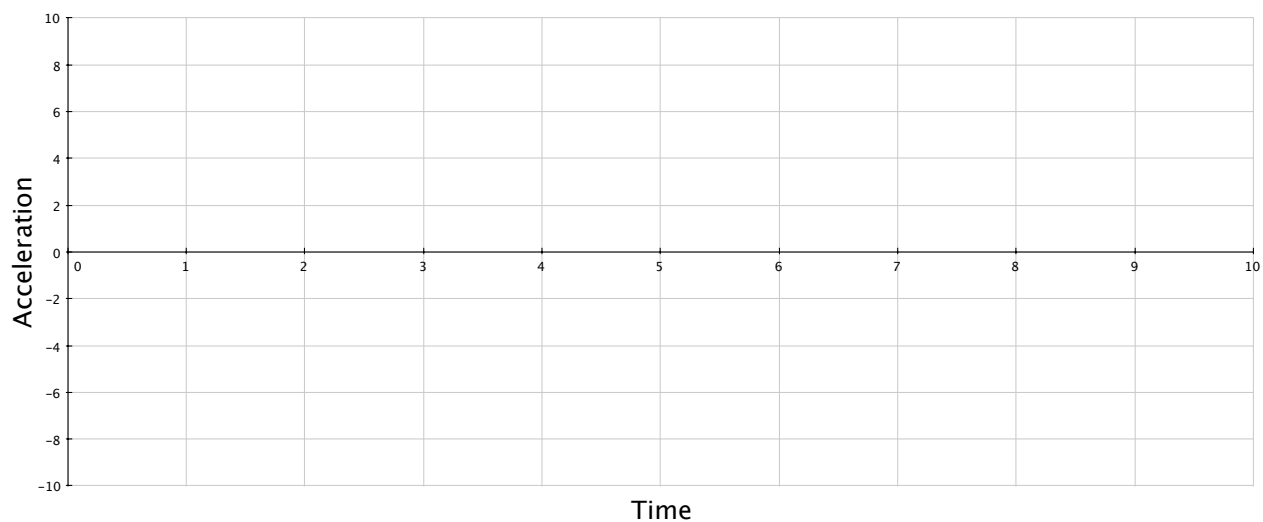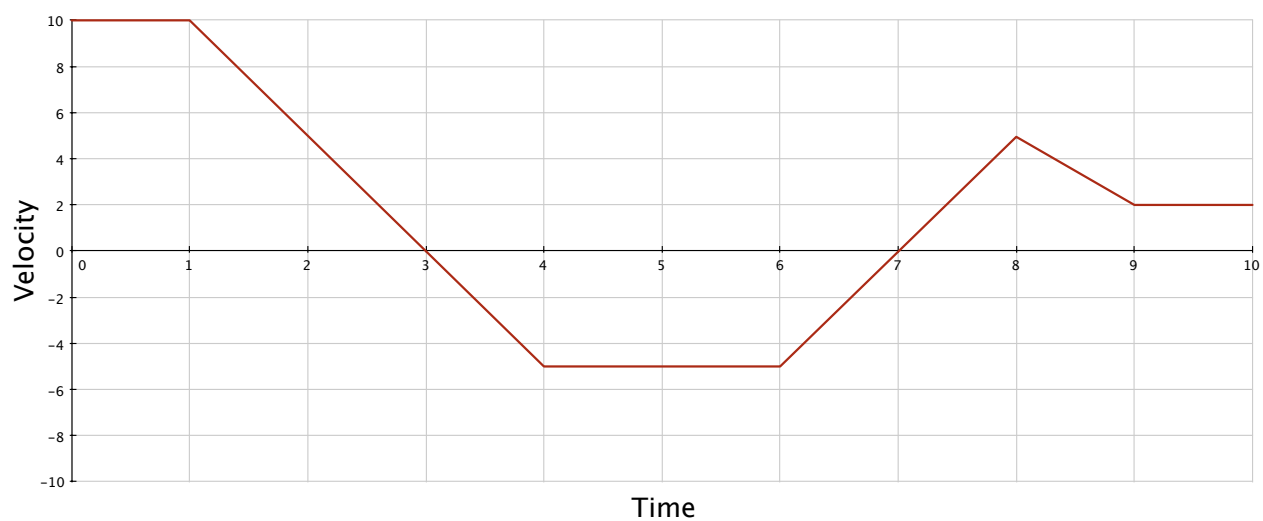
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Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.
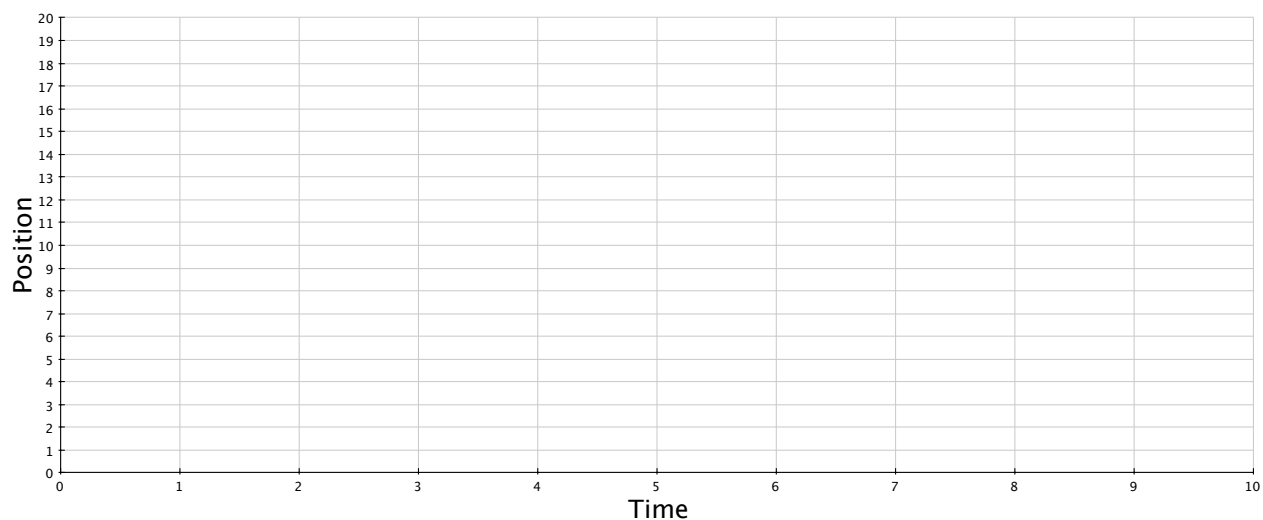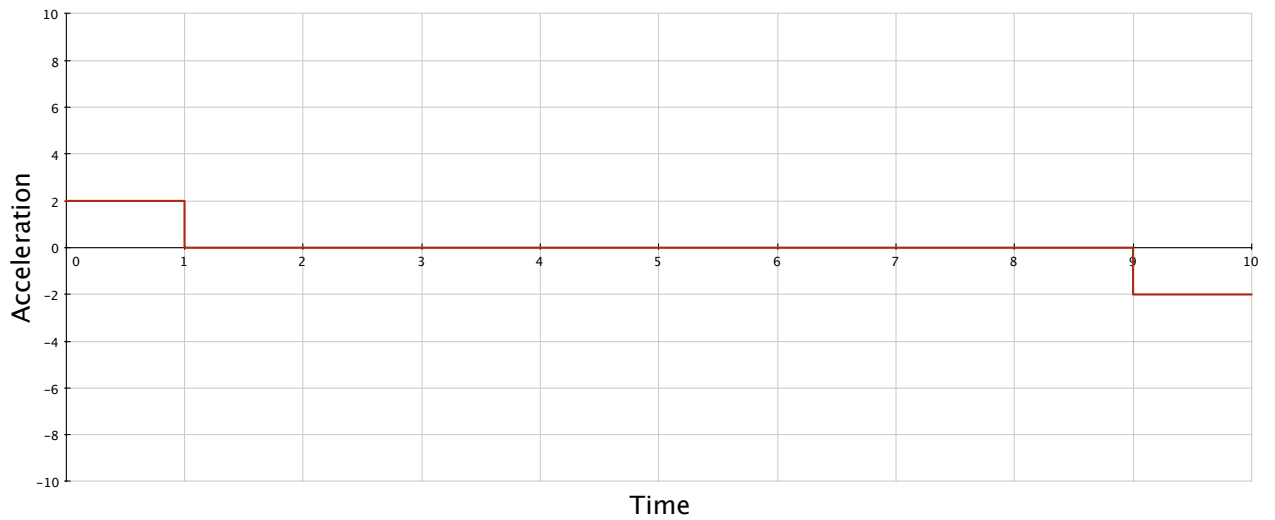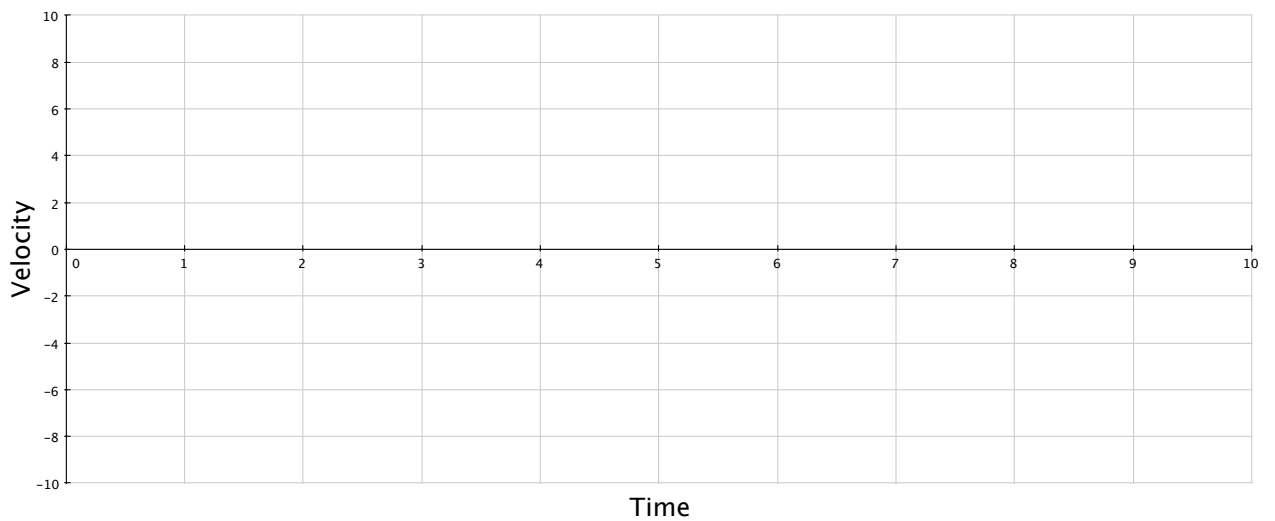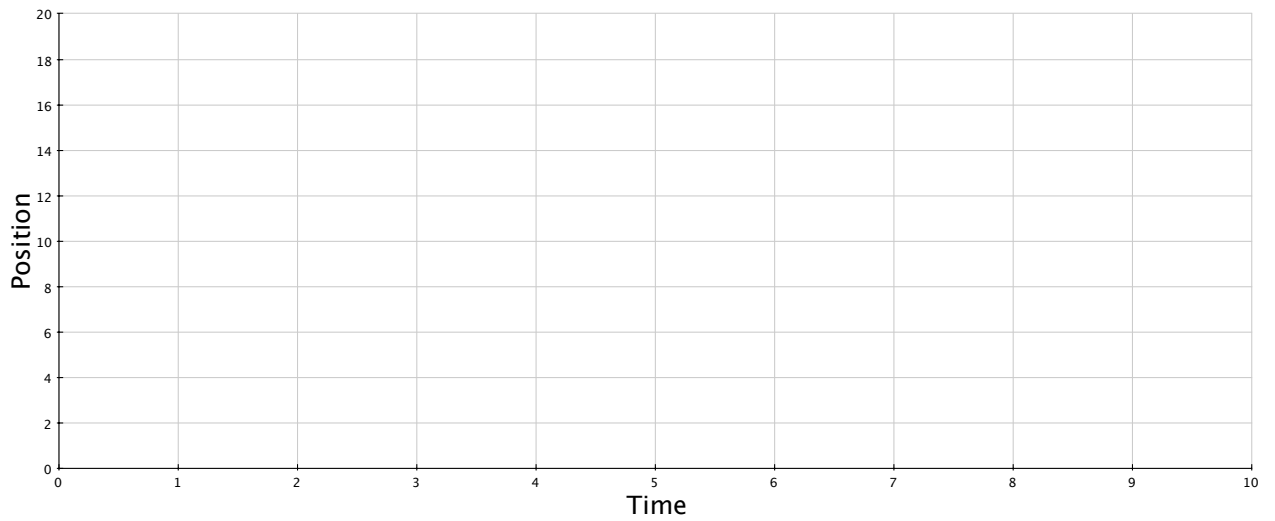
Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

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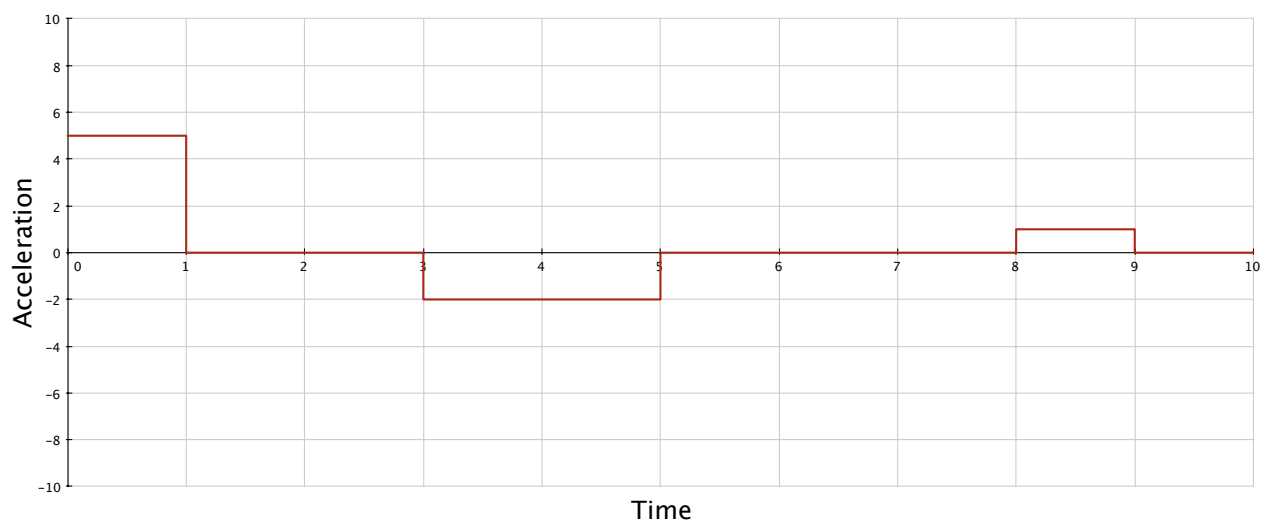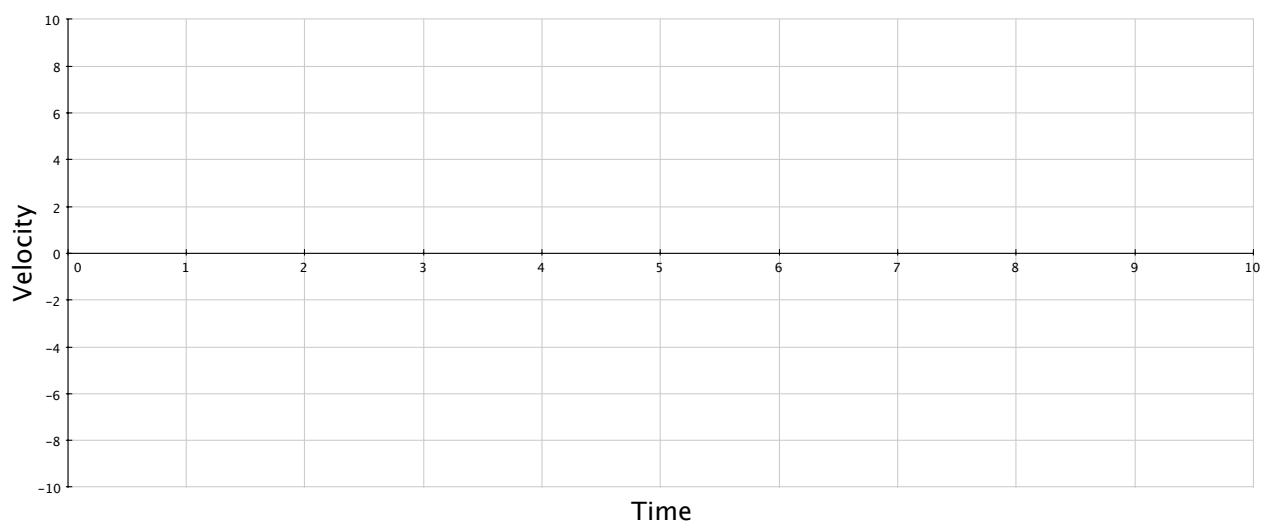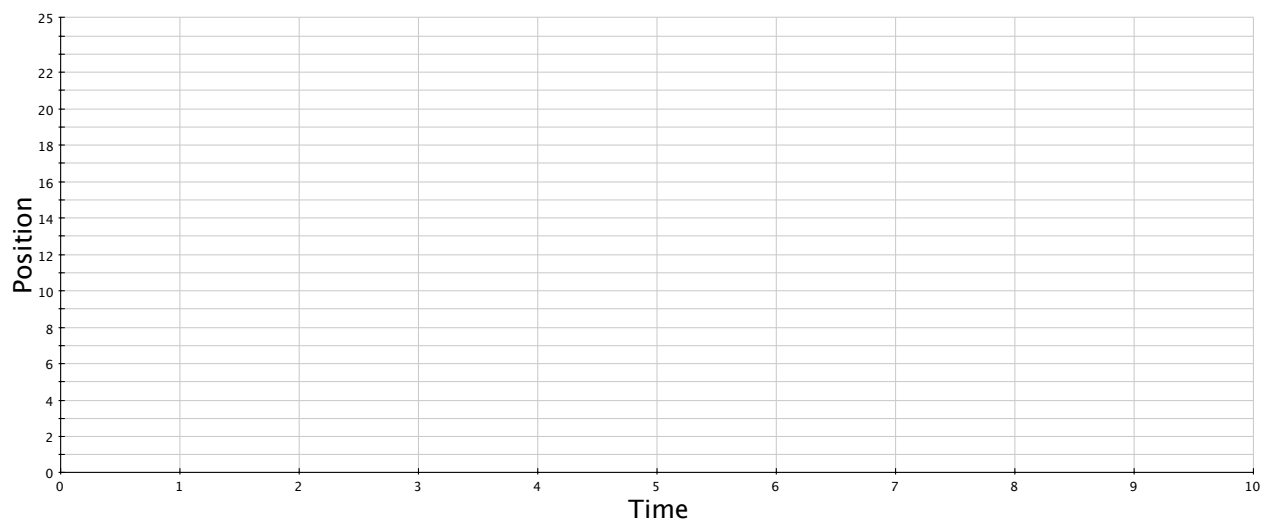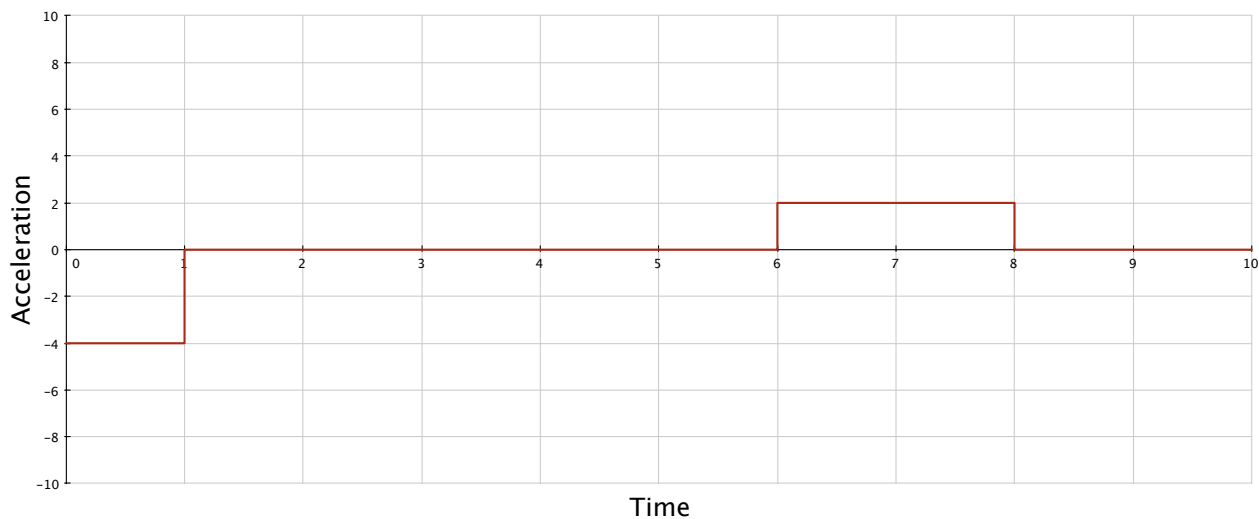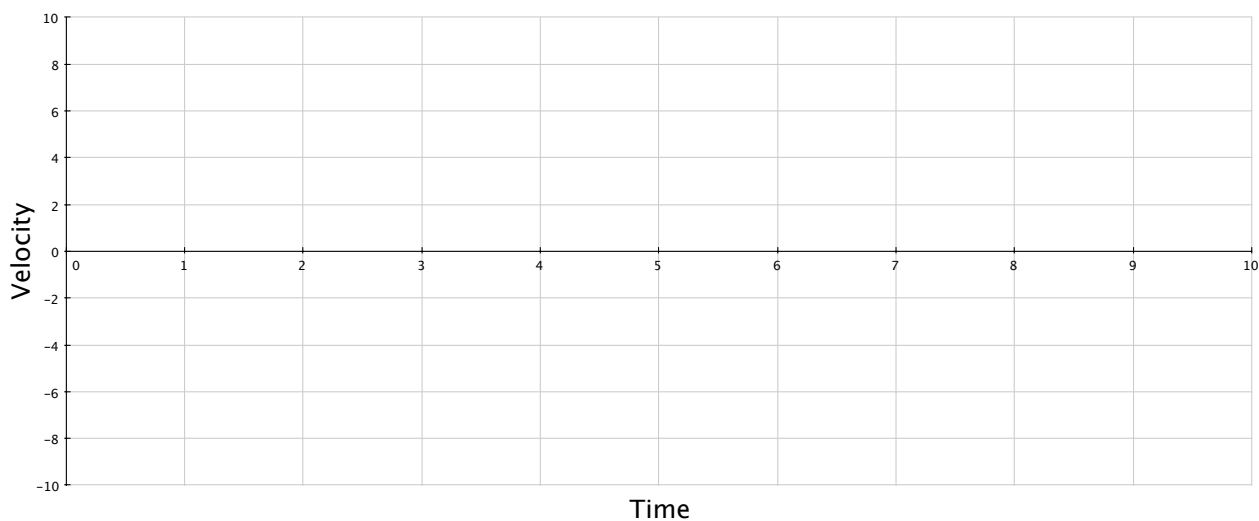
Sketch the missing motion graphs. Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.

Position / Time

Velocity / Time

Acceleration / Time

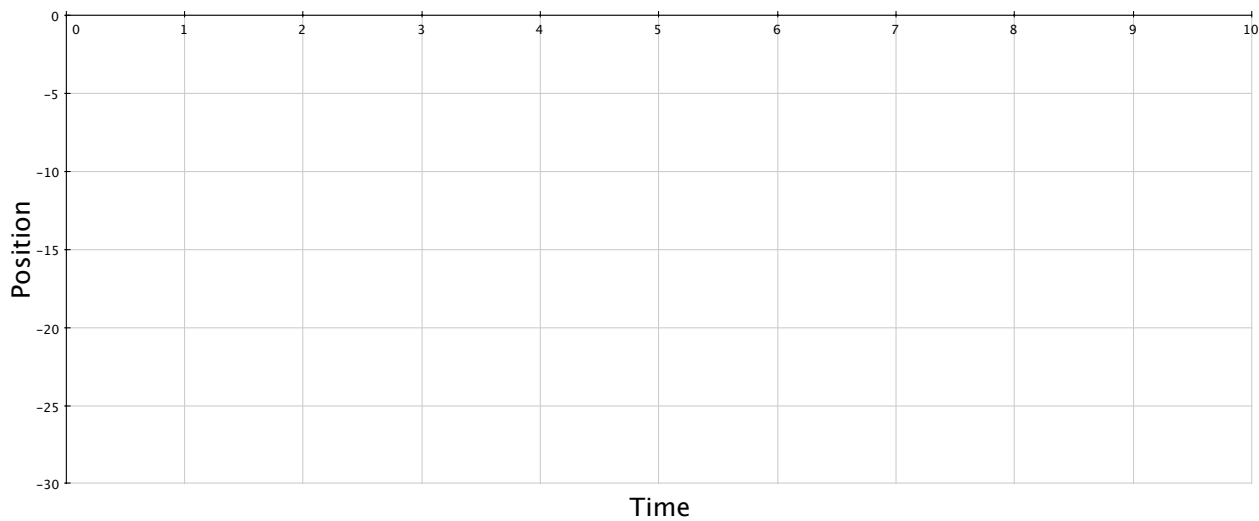**Sketch the missing motion graphs.** Pay particular attention to shape and inflection points. Change the values of the vertical axis if necessary.