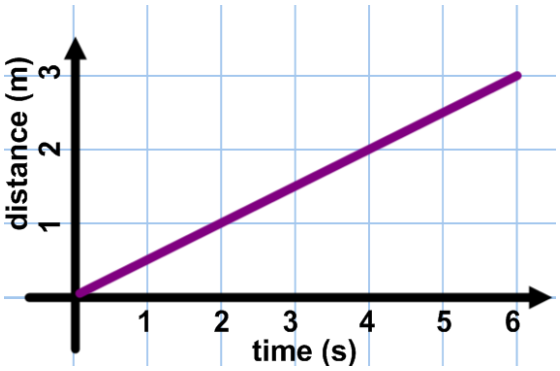
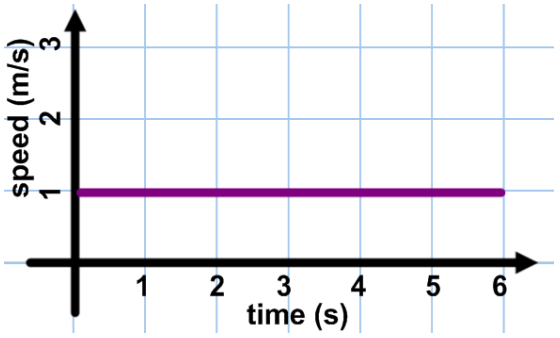
Mastering Graphs of Motion

1. These graphs show the motion of a toy train on a straight piece of train track. For each graph, describe the motion of the train in words in as much detail as you can. (For displacement and velocity, positive means to the right and negative means to the left.)

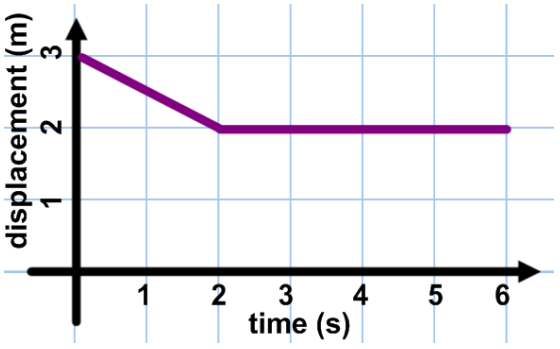
a.



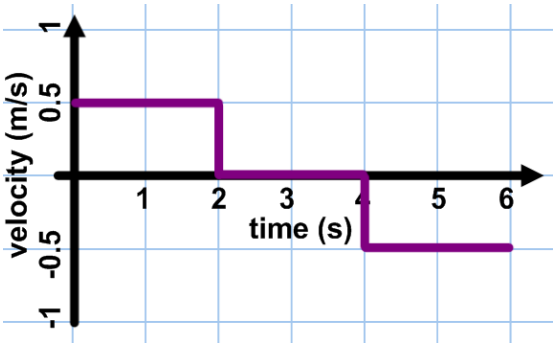
b.



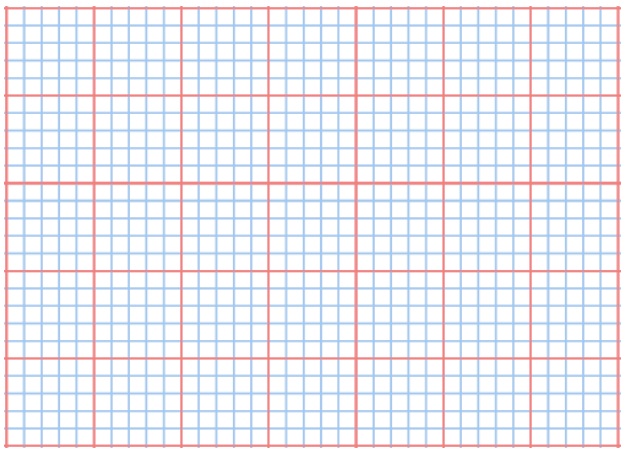
c.



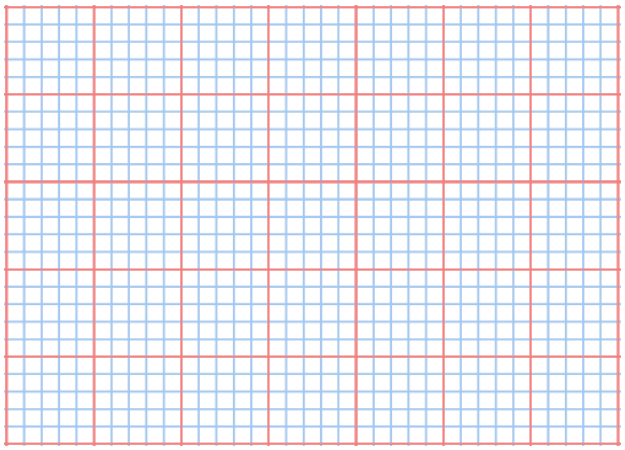
d.



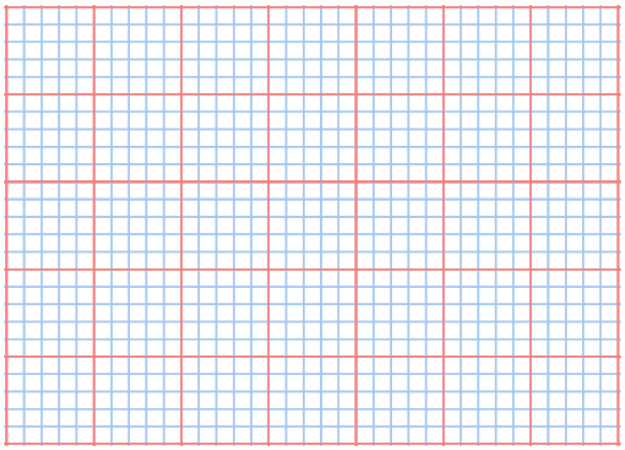
2. In this question you have to translate one type of graph to another.
    a. Draw a **speed-time graph** that describes exactly the same motion as 1 a).



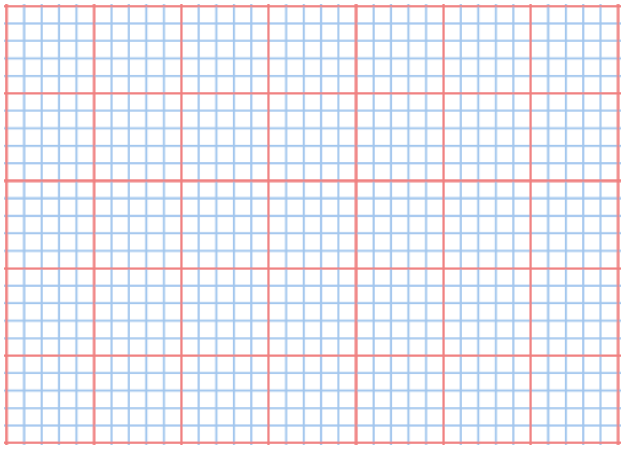
    b. Draw a **distance-time graph** that describes exactly the same motion as 1 b).



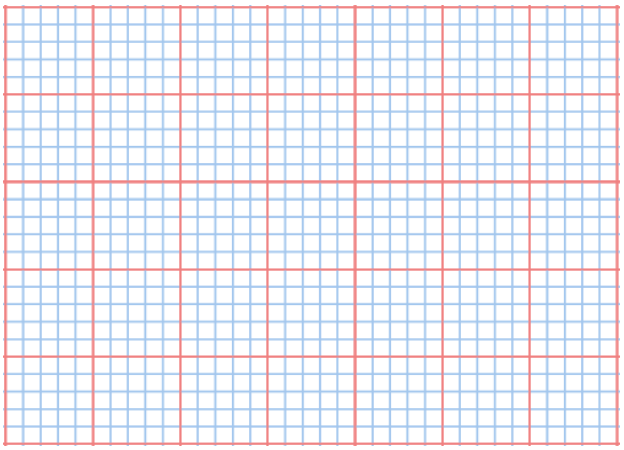
    c. Draw a **velocity-time graph** that describes exactly the same motion as 1 c).



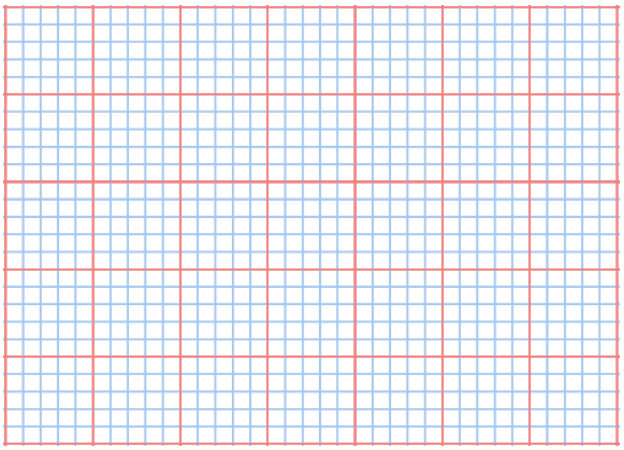
    d. Draw a **displacement-time graph** that describes exactly the same motion as 1 d).



e. Draw a **distance-time graph** for the motion in 1 c).



f. Draw a **speed-time graph** for the motion in 1 d).



3. Draw some new graphs that show the train doing the same thing (you choose). Do a graph with distance, one with speed, one with displacement and one with velocity.