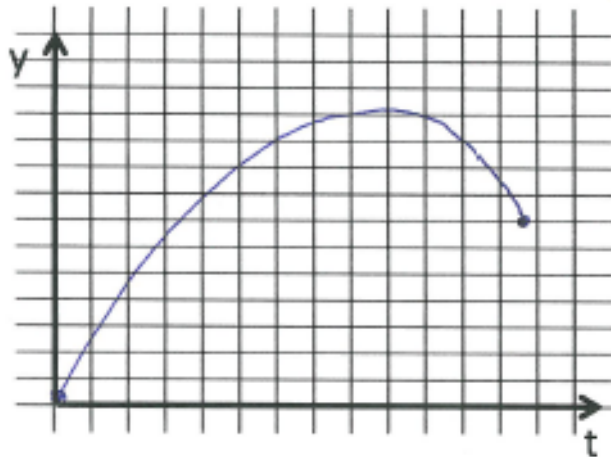


Quiz 1F (Blue Solutions): Motion

1 Throw ball in air. Plot position vs time.



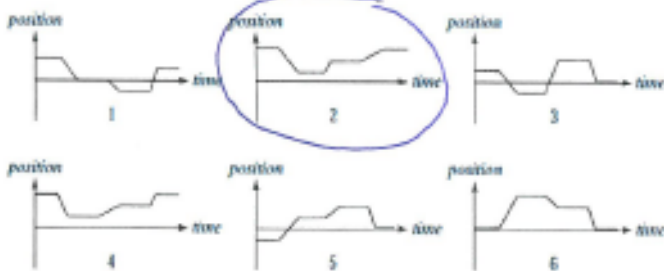
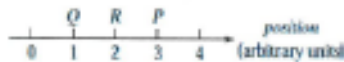
3 pts

3

A roof tile falls straight down from a two-storey building. It lands in a swimming pool and settles gently at constant speed to the bottom. Draw a complete motion diagram of the tile. Be sure to show the acceleration at the lowest point! (4 pts)

Starting from rest, the tile's velocity increases until it hits the water surface. This part of the motion is represented by dots with increasing separation, indicating increasing average velocity. After the tile enters the water, it settles to the bottom at roughly constant speed, so this part of the motion is represented by equally spaced dots. It comes to an abrupt stop at bottom, hence acceleration pointing upward there.

2 A person initially at point *P* in the illustration stays there a moment and then moves along the axis to *Q* and stays there a moment. She then runs quickly to *R*, stays there a moment, and then strolls slowly back to *P*. Which of the position vs. time graphs below correctly represents this motion?



3 pts

