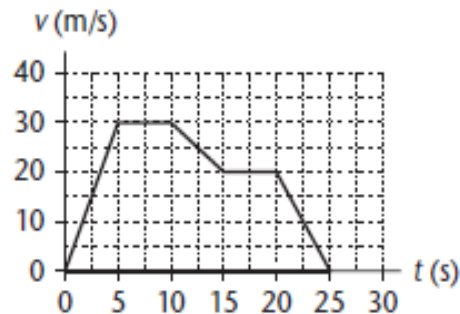


PRACTICE PROBLEMS:
UNIFORM ACCELERATION

1. The velocity-time graph of a moving object is shown below.



- Find the acceleration at each interval of motion. Show your solution.
 - Sketch the acceleration of the object as a function of time.
 - Find the displacement of each interval using the area under the graph.
 - Use the 3rd kinematics equation to solve for displacement then compare the results with your answers in letter (c)
2. An express train, traveling at 36.0 m/s, is accidentally sidetracked onto a local train track. The express engineer spots a local train exactly 1.00×10^2 m ahead on the same track and traveling in the same direction. The local engineer is unaware of the situation. The express engineer jams on the brakes and slows the express at a constant rate of 3.00 m/s^2 . If the speed of the local train is 11.0 m/s, will the express train be able to stop in time or will there be a collision?