

Name: _____ Class: _____ Date: _____ **Total: 25 marks**

Kinematics: constant acceleration

2 Practice

3 Exam-style questions

3.1 (*EDEXCEL IAL WME01 June 2025 Q3.*) A particle is projected vertically upwards from A with speed $U \text{ m s}^{-1}$. A is 12 m vertically above the point B on horizontal ground. The particle moves freely under gravity until it hits the ground at B, 4 seconds after leaving A. (a) Find U . (b) Find the speed with which the particle hits the ground. (c) Sketch a speed-time graph for the motion from A to B, marking the values of the speed at A, at B and at the instant the speed is zero. [8]

