

A-Level Mathematics Mechanics: Constant Acceleration

Priority Learning

Worksheet

Name: _____ Date: _____

Question:	1	2	3	Total
Marks:	3	3	8	14
Score:				

1. An archer on horse back fires an arrow directly ahead of him at a wooden target. When the arrow strikes the target it is travelling at 5m/s . The deceleration due to air resistance was 0.5m/s^2 and the archer was 80m away from the target when he fired the arrow. Calculate the speed the archer fired the arrow at. (3 marks)

2. A ball is thrown up in the air at a speed of 4m/s . Calculate how long it takes the ball to reach the ground in terms of g . (3 marks)

3. A student is in a hot air balloon 20m above the ground and throws a ball upwards out of the hot air balloon with velocity $u\text{m/s}$.
- (a) Calculate the maximum displacement above the ground the ball reaches in terms of u and g . (2 marks)
