AQA Computer Science A-Level
4.2.8 Vectors
Past Paper Mark Scheme

June 2017 Paper 1 Mark Scheme

05	1	**Mark is for AO2 (apply)**	1
		-2;	

05	2	**Mark is for AO2 (apply)**	1
		[8, 3]; I. missing brackets I. wrong type of brackets	

05	3	**Marks are for AO2 (apply)**	3

Calculation	Result
U	[1, 1]
v = [position of hero] - [position of enemy]	[6, -4];
u.v	2;
EnemyCanSee	True;

A. different answers that have been correctly calculated based on an incorrect answer for 5.2

05	4	**1 mark for AO1 (knowledge)** a heuristic approach employs a method of finding a solution that might not be the best; **1 mark for AO1 (understanding)** algorithm might need to consider visiting less/fewer cells/co-ordinates // algorithm might use knowledge of the domain to cut-down the search space // algorithm might consider visiting certain cells/coordinates first;	2
05	5	**Marks are for AO1 (understanding)** static data structures have storage size determined at compile-time / before program is run / when program code is translated; dynamic data structures can grow/shrink during execution / at run-time; // Static data structures can waste storage space/memory if the number of data items stored is small relative to the size of the structure; whereas dynamic data structures only take up the amount of storage space required for the actual data; // Static data structures have fixed (maximum) size; whereas size of dynamic data structures can change; // Dynamic data structures (typically) require memory to store pointer(s) to the next item(s); which static data structures (typically) do not need; **NE.** Dynamic data structures use pointers // Static data structures (typically) store data in consecutive memory locations; which dynamic data structures (typically) do not;	2