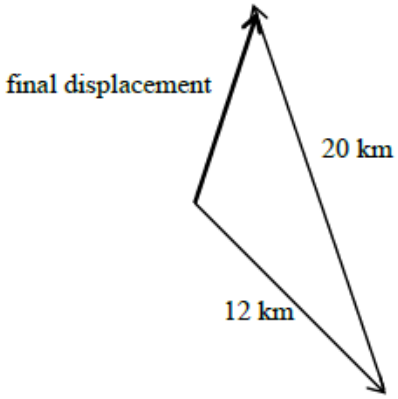
Vectors - Mark Scheme

Q1.

Question Number	Answer	Mark
	The only correct answer is B  **A** *is not the correct answer as the length and direction of the line are incorrect* **C** *is not the correct answer as the length and direction of the line are incorrect* **B** *is not the correct answer as the length and direction of the line are incorrect*	**(1)**

Q2.

Question Number	Answer	Mark
	B is the correct answer This is because the horizontal component is calculated using the equation $v_H = \sqrt{v^2 - v_V^2} = \sqrt{0.5^2 - 0.3^2} = 0.4$	**(1)**

Q3.

Question Number	Answer	Mark
	D is the correct answer A is not the correct answer as work done is a scalar quantity B is not the correct answer as time is a scalar quantity C is not the correct answer as temperature is a scalar quantity	**(1)**

Q4.

Question Number	Answer	Mark
	B is the correct answer A is not the correct answer as the magnitude of the final velocity would be greater and a little less to the right. C is not the correct answer as the final velocity would be greater and to the left of the original velocity. D is not the correct answer as the final velocity would be similar to C, but more to the left and of a lesser magnitude.	**(1)**

Q5.

Question Number	Answer	Mark
	The only correct answer is D because kg m^{-3} is the unit for density (scalar) **A** *is not the correct answer as m* s^{-1} *is the unit for velocity (vector) and speed (scalar)* **B** *is not the correct answer as m* s^{-2} *is the unit for acceleration (vector)* **C** *is not the correct answer as kg m* s^{-2} *is the unit for force (vector)*	**(1)**