Question number	Answer	Notes	Marks
6	any six from: MP1. cup slows down/stops energy transfer to surroundings; **relating to conduction:** MP2. vacuum contains no particles; MP3. reducing/stopping conduction (through the sides); MP4. plastic (lid) is a poor conductor / good insulator; **relating to convection:** MP5. air is trapped by the lid; MP6. reducing/stopping convection (from the surface); **relating to radiation:** MP7. (inner) shiny surface is poor absorber of infrared / radiation; MP8. (outer) shiny surface is poor emitter of infrared / radiation; MP9. energy transfer by radiation reduced/stopped;	allow idea that <u>energy</u> is trapped ignore 'heat is trapped' allow reducing/stopping evaporation allow idea that inner surface reflects heat	6

Total for Question 6 = 6 marks

Question number	Answer	Notes	Marks
8 (a) (i)	acceleration = change in velocity / time;	allow rearrangements and standard symbols e.g. a = v-u / t, a = Δv/t, a = Δv/Δt	1
(ii)	substitution; rearrangement; evaluation; e.g. 1.2 = (35 – 26) / t t = 9 / 1.2 (t =) 7.5 (s)		3
(b)	any four from: MP1. frequency increases; MP2. due to Doppler effect; MP3. idea that car behaves as the source of the (reflected) waves; MP4. (reflected) wavefronts closer together; MP5. (reflected) wavelength decreased; MP6. speed (of waves) stays constant;	 allow "waves become bunched up" allow quotation of $v = f \times \lambda$	4

Total for Question 8 = 8 marks