

Question number	Answer	Notes	Marks
3 (a) (i)	B - consumption of alcohol by the driver; A is incorrect because condition of tyres only affects braking distance C is incorrect because mass of vehicle only affects braking distance D is incorrect because wet road only affects braking distance		1
(ii)	D - speed of the vehicle; A is incorrect because condition of brakes only affects braking distance B is incorrect because condition of road only affects braking distance C is incorrect because mass of vehicle only affects braking distance		1
(b) (i)	work done = force \times distance;	allow correct rearrangements allow standard symbols i.e. W/E/WD for work done, F/f for force, d/D/s for distance	1
(ii)	substitution; rearrangement; evaluation; e.g. $590000 = 46000 \times \text{distance}$ $d = 590000/46000$ $d = 13 \text{ (m)}$	allow subs and re-arrange in either order allow 12.8 (m), 12.83 (m) etc	3
(c) (i)	thermal;		1
(ii)	mechanic(ally);		1

Total for Question 3 = 8 marks