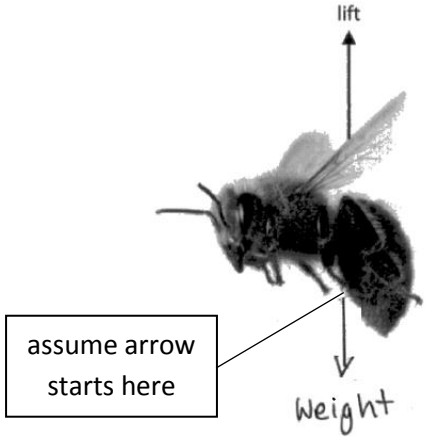
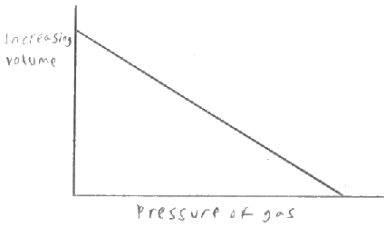
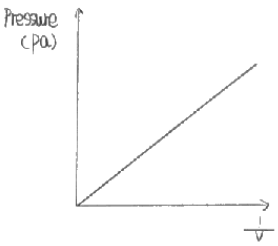
Question number	Answer	Notes	Marks
2 a	downward arrow labelled 'weight' / 'air resistance'; downward arrow is shorter than lift arrow (by eye);  	ignore horizontal arrows allow gravitational force, force due to gravity, W, mg, AR ignore spelling ignore 'gravity' 'G' judge length of arrow starting from the bottom of the bee ignore horizontal position of arrow	2
b (i)	B;		1
(ii)	A;		1
(iii)	(average) speed = $\frac{\text{distance (moved)}}{\text{time (taken)}}$;	allow rearrangements and standard symbols e.g. v=s/t s=d/t	1
(iv)	substitution; evaluation; e.g. (speed =) 19.5/35 (speed =) 0.56 (m/s)	allow distances used in range 19.5-20.0 (m) allow answers in range 0.55 – 0.57 (m/s) answer of 0.54 (using speed=19) gains 1 mark only 0.5571429 allow 0.6 if supported by working	2

Question number	Answer	Notes	Marks
9 a (i)	straight line extrapolated in line with existing line such that it crosses the temperature axis; temperature given in the range -260 to -300;	judge by eye	2
(ii)	(speed) increases / eq;		1
b (i)	temperature; mass / amount / type (of gas);	allow 'number of moles' allow moisture level / humidity (of gas)	2
(ii)	MP1. low volume gives high pressure / ORA; MP2. decreasing volume increases the pressure / ORA; MP3. relationship is non-linear / inversely proportional / idea that rate of change varies;  = 2 marks  = 3 marks	allow all marking points if seen from clear sketch graph with labelled axes N.B. 'pressure is inversely proportional to volume' gains all 3 marks Note that the following sketch graph would also gain all 3 marks  	3

Total for question 9 = 8 marks