

Question number	Answer	Notes	Marks
5 (a)	D	ACCEPT equally spaced and straight / equally spaced and do not change direction	2
(b)	two (permanent / bar) magnets pole pieces arranged correctly e.g. North facing South idea of magnets being the correct distance apart	ACCEPT points made on an annotated diagram REJECT description of poles as positive / negative ACCEPT "close together", "not touching" ACCEPT idea that field is produced in the space between the N pole of one magnet and the S pole of the other REJECT answers that are clearly referring to electromagnets	3

Question number	Answer	Notes	Marks
7 (c)	<p>ANY 5 relevant points, e.g. Explanation of what reaction time is; Reaction time affects readings / reaction time does matter; Reaction times vary; Reaction times do not cancel out; Reaction time should be considered / allowed for; Kefe is right (about reaction times); reaction time typically at least 0.1 s; which is large compared to measured times / large % error; time should only be to 1 s.f.; so final value should also be to 1 s.f. / Kefe's value more suitable; 3 s.f. inappropriate; closer to accepted value does not mean more accurate;</p>	<p>Answers should ideally relate to how <i>appropriate</i> the precision of the measurements was, linking this to the number of significant figures merited</p> <p>Consideration of reaction time and its measurement may score a number of marks</p>	MAX 5