

Question number	Answer	Notes	Marks
10 (a)	<p>any suitable method, e.g.</p> <p>place plotting compass near magnet;</p> <p>note direction of compass;</p> <p>move compass to different position (and repeat);</p> <p>OR</p> <p>place magnet under paper / plastic;</p> <p>use of iron filings;</p> <p>tap paper gently (to reveal shape);</p>	<p>allow suitably clear diagrams</p> <p>reject for one mark 'charges'</p> <p>allow using multiple compasses</p> <p>allow steel dust, iron powder for iron filings</p>	3
(b)	<p>MP1. field line connecting one pole to the other;</p> <p>MP2. at least two complete field lines, but none touching / crossing;</p> <p>MP3. field line are more concentrated near the poles;</p>	<p>ignore direction of field lines throughout</p> <p>allow small gap where field line joins magnet</p> <p>ignore field lines inside the magnet</p> <p>ignore field lines that start outside the pole region</p> <p>judge by eye</p>	3
(c) (i)	<p>C – out of the page;</p> <p>The only correct answer is C</p> <p>A is not correct <b>because it's the wrong direction</b></p> <p>B is not correct <b>because it's the wrong direction</b></p> <p>D is not correct <b>because it's the wrong direction</b></p>		1

(ii)	(change that would reverse) direction of (magnetic) field; (change that would reverse) direction of current;	e.g. swap the magnets round e.g. reverse the voltage	2
(iii)	force decreases; (because) magnetic field becomes non-uniform / weaker;	DOP <b>allow 'field lines get further apart'</b>	2

Total for question 10 = 11 marks