

| Question number | Answer | Notes | Marks |
|-----------------|--|---|-------|
| 2 (a) (i) | substitution into $F = (mv - mu)/t$; evaluation; correct direction; e.g. (F =) $(6.7 - -4.2) / 0.012$ (F =) 910 (N) (direction =) right | -1 if POT error independent mark 208.3... scores 2 marks max. if given with correct direction allow 908.3...(N) allow forwards ignore compass directions 0.9083... scores 1 mark | 3 |
| (ii) | same forces as in (a)(i) AND <u>opposite</u> direction; e.g. (F =) 910 (N) AND (direction =) left | allow ECF from (a)(i) for both points allow ECF for compass direction only if opposite to direction given in (i) | 1 |
| (b) | any three from: MP1. idea that there is a change of momentum (when ball hits player); MP2. (equipment) increases (impact) time; MP3. decreases rate of change of momentum (of ball); MP4. decreases force (on player); MP5. decreases pressure (on player); | allow spreads force over larger area | 3 |

Total for Question 2 = 7 marks