

Forces and braking

Mark scheme

1. (a) (i) constant 1
 (ii) heat 1
 (b) (i) 3 links correct 2
- 22 m/s

chart A
- 13 m/s

chart B
- tired

chart C
- allow 1 mark for 1 correct link
 if more than one line is drawn from a condition mark all lines from that condition incorrect*
- (ii) increased 1
- [5]**
2. (a) 53 (m) 1
 (b) (i) Similar shape curve drawn above existing line going through (0, 0) 2
allow 1 mark for any upward smooth curve or straight upward line above existing line going through (0, 0)
 (ii) rain on road 1
 car brakes in bad condition 1
 (c) (i) all three lines correctly labelled
allow 1 mark for one correctly labelled
 top line – C
accept 1.2
 middle line – B
accept 0.9
 bottom line – A
accept 0.7 2
 (ii) any **two** from:
 - (table has) both variables are together
accept tired and music as named variables
 - both (variables) could/ would affect the reaction time
 - cannot tell original contribution
accept cannot tell which variable is affecting the drive (the most)
 - need to measure one (variable) on its own
accept need to test each separately
 - need to control one of the variables 2
- [9]**