Mark schemes

1.

(a) Any answer in the range 145m to 175m inclusive.

1

(b) A time in the range 27 to 29 seconds inclusive.

1

(c) Evidence of awareness that the time interval between the points where the 200m line cuts the graph for rocket A has been used, eg:

- "He could have checked when the rocket went above 200m and when it went under 200m and worked out the time between."

- "Look how high it goes until it gets to 200m then look along the horizontal line until it drops below 200m."

> *An appropriate drawing on the graph, identifying the intersection of the 200m line with the curve is acceptable a part of explanation, eg, award mark for:*
>
> - *"Subtract the two dots"* if dots are marked indicatin correct intersections.
>   *Do not accept vague statements or ones which only repea information, eg:*
> - *"You can draw the graph then draw the things then work it out."*
> - *"Because on the graph the rocket is above 200m for 23 seconds."*

1

[3]

2.

(a) 9

1

(b) 8th of March

> *Accept 8*
> *Accept '7th – 8th' or similar.*
> ***Do not*** *accept 7th.*

1

(c) 39.1 **OR** 39.2

1

[3]

3.

(a) Answer in the range 250 to 270 inclusive.

1

(b) Answer in the range 460 to 480 inclusive.

1

[2]

4. (a) 40

1

(b) Answer in the range 12 to 13km inclusive.

1

(c) An explanation which indicates that after 1 hour she has travelled more
than 20km and/or she has travelled less than 20km in the second hour, eg

- 'She did about 40 km and it was about 22 in the first hour';

- 'Half and half would be 20-20, but she does more than 20 then less than 20';

- 'It goes to 23 in the first hour'.

   Do not *accept vague or arbitrary explanations, eg*
   - *'She got tired in the second half';*
   - *'It's marked on the graph';*
   - *'There's more crosses in the first hour than the second';*
   - *'The gaps are further apart'.*

1

[3]