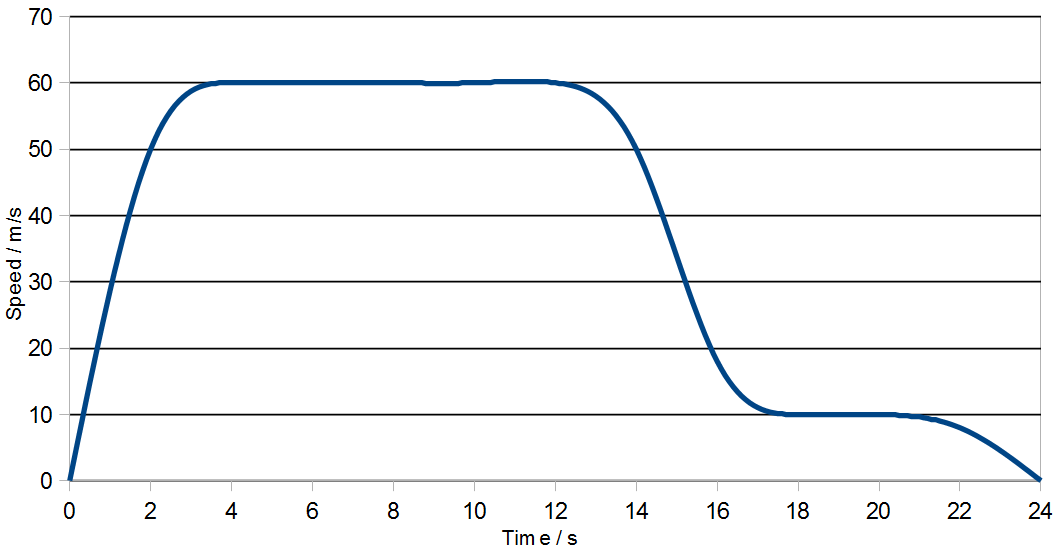
1. Study this graph about the descent of a paratrooper and then answer the questions.
   1. Name the two vertical forces acting on the paratrooper. [2]

* 1. Explain why the acceleration was greatest when he first jumped off the  
     plane? [1]

* 1. When did the paratrooper first begin to fall at terminal velocity? [1]

* 1. At what speed did he touch the ground? [1]

* 1. What will the graph look like if there was no upward force acting on the paratrooper? [1]

**SOLUTIONS**

Q1a:

Weight and Air resistance

Q1b:

According to Newton's second law, acceleration depends upon resultant force. Initially there was no air resistance to counter the weight. So resultant force downwards was maximum.

Q1c:

Any value between 3 to 5 seconds.

OR

When the speed became 60 m/s.

Q1d:

10 m/s

Q1e:

The graph would be a straight line (having positive gradient).

It would be a straight line (with a positive gradient showing constant acceleration).