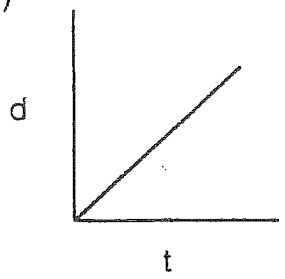
Physics II Practice Quiz Name: _____

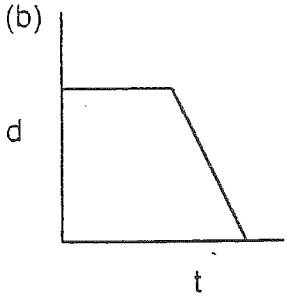
Block: _____

* (1) For each of the following distance-time graphs, sketch the corresponding velocity-time graph.

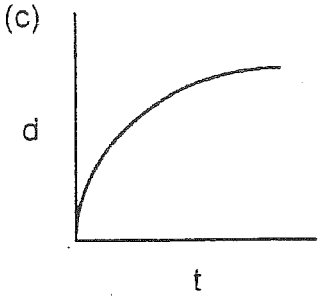
(a)



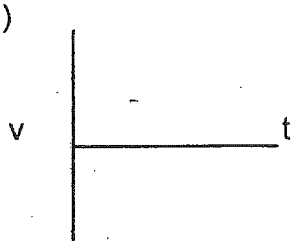
(b)



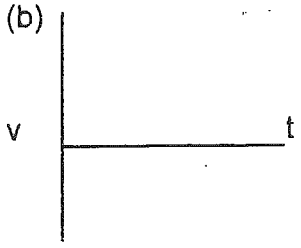
(c)



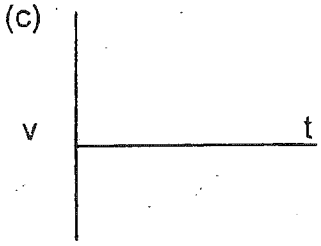
(a)



(b)

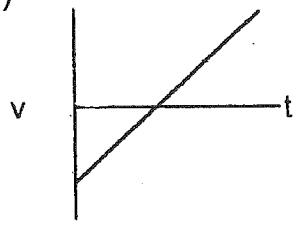


(c)

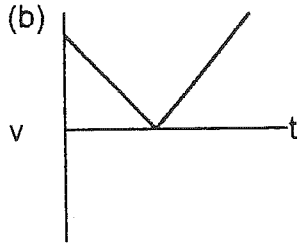


(2) For the following velocity-time graphs, sketch the corresponding acceleration-time graphs.

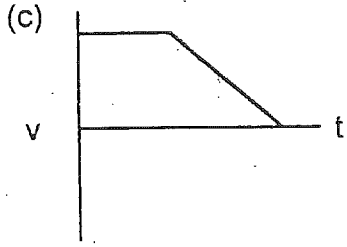
(a)



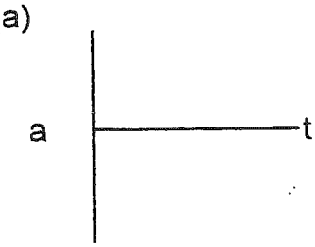
(b)



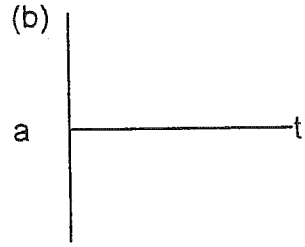
(c)



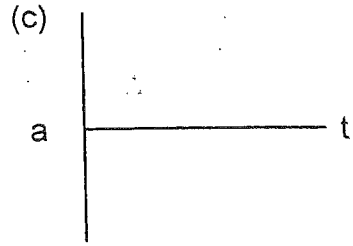
(a)



(b)



(c)



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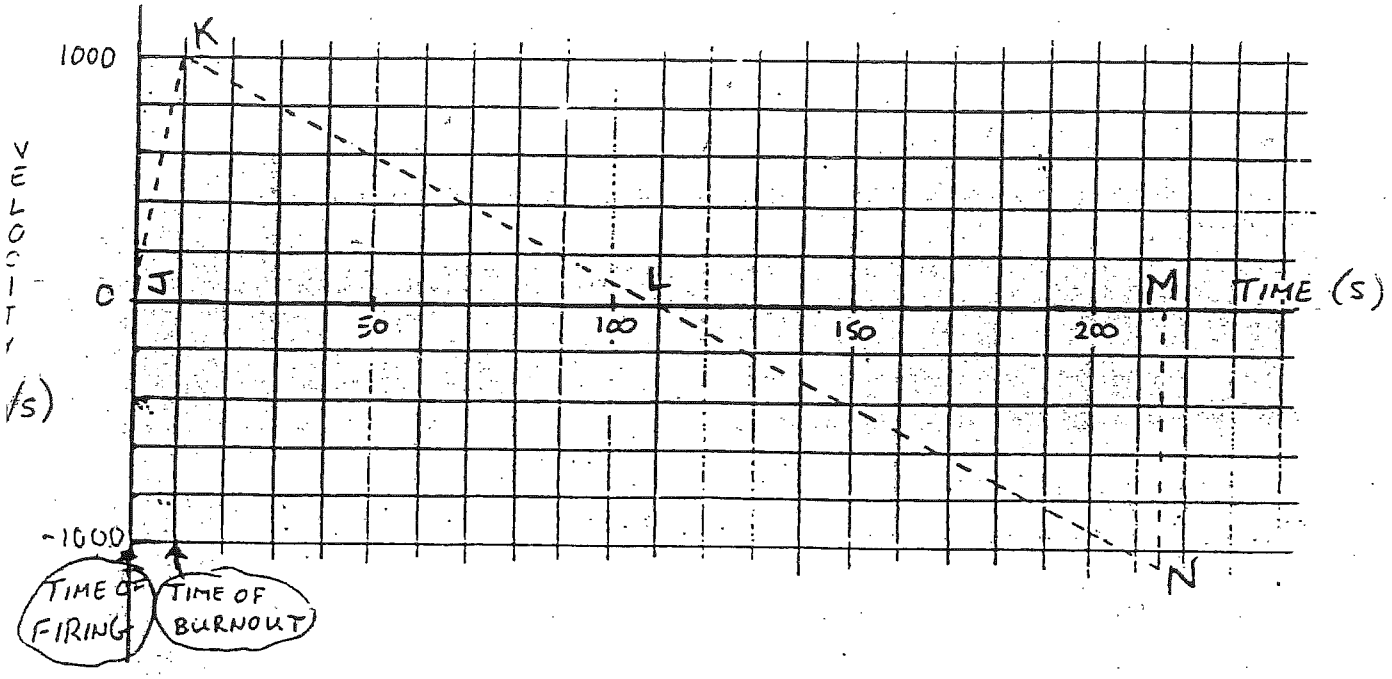
2. The graph shown below represents the velocity of a small rocket which was fired vertically from the ground. Air resistance can be ignored. The first portion of the graph, from J to K represents the time that the rockets fuel was accelerating the rocket upwards. At K the fuel was burned out, an the rocket was in "free fall'.



(a) What was the acceleration of the rocket while the fuel was burning?

(b) At what time did the rocket reach its maximum height?

(c) What was the maximum height reached by the rocket?

3. The minimum stopping distance of particular car travelling at 1.0×10^2 km/h is 57.7 m.

(a) What is the cars acceleration while slowing down?

(b) How long does it take to stop?

4. (a) With what velocity must a defective calculator be thrown upwards in order to reach a height of 7.5 m?

(b) How long will it take to smash on the ground?

(c) How high would it fly if it were thrown with and initial velocity two times greater?

5. A girl dropped a stone from the elevator of the Eiffel tower while it was going up at a speed of 2.0 m/s.

(a) If she was at a height of 145 m when she dropped the stone, how long did it take the pebble to hit the ground?

(b) What was the stones speed the instant before it hit the ground?