Year 12 Senior Physics Challenge

Wondering just how difficult the competition is? Then have a go at two of the multiple choice questions below (only the first 4 marks in the paper are multiple choice)

Sample question 1)

A car tyre lasts typically $40\,000$ km. Estimate the number of rotations it makes during its lifetime.

A. 10^5 B. 10^6 C. 10^7 D. 10^8 E. 10^9

[1]

Sample question 2)

A girl standing on a cliff throws two balls, one up and one down, at the same speed. How do the final velocities of each compare as they hit the sea?

A. The ball thrown down has a greater velocity than the ball thrown up

B. If the height going up is greater than the drop down to the sea, then the ball thrown up will have a greater velocity

C. If the height up is less than the drop down, then the upwards ball will have a lower velocity

D. The same

E. The result depends upon the magnitude of the speed of the throw of the two balls

[1]

For the answers see page 2.

Answers:
1) C
2) D