

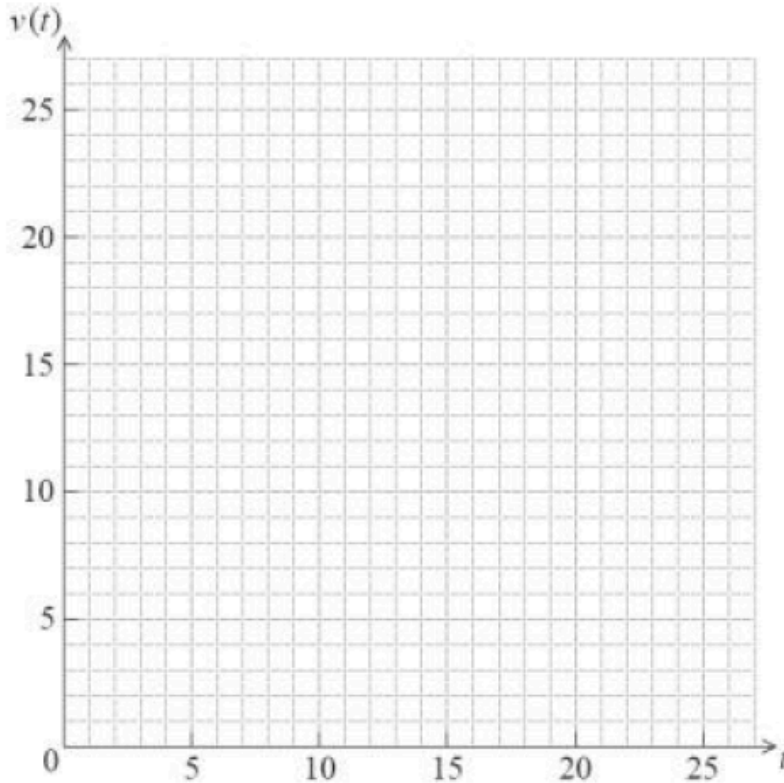
ASSIGNMENT: Displacement, Velocity, Acceleration

INSTRUCTIONS: If you ever forget whether you should integrate or differentiate, refer back to your background knowledge of the units.

13.) The velocity v in m s^{-1} of an object after t seconds is given by $v(t) = 15\sqrt{t} - 3t$, for $0 \leq t \leq 25$.

(a) On the grid below, sketch the graph of v , clearly indicating the maximum point.

[SL non-calc]



(3)

Let d be the distance travelled in the first nine seconds.

(b) (i) Write down an expression for d .

(ii) Hence, write down the value of d .

[note: $\sqrt{729} = 27$]

(4)
(Total 7 marks)

NAME: _____

DATE: 03/23/2018

Answer key: (show all calculations for full marks)

13) 148.5 m (the IB deducts 1 mark per paper when you omit units)