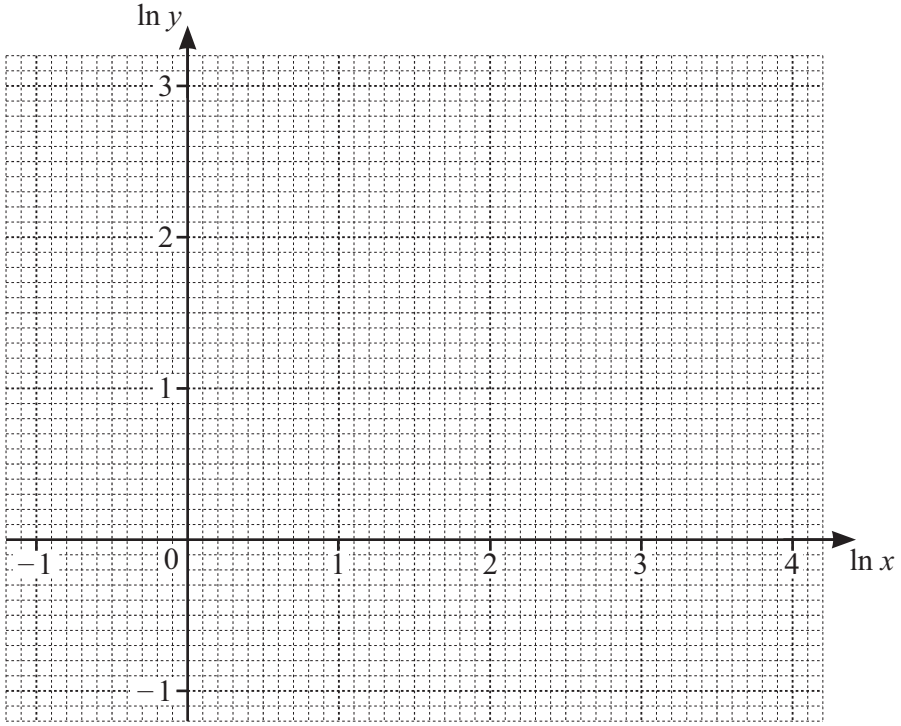
9 Two variables, x and y, are related by an equation of the form $y = Ax^b$, where A and b are constants. The following pairs of values of x and y are given.

x	0.61	4.48	12.18	33.1
y	1.65	4.47	7.39	12.17

(a) On the axes below, use these values to draw the straight-line graph of $\ln y$ against $\ln x$. [2]



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(b) Use your graph to find the values of A and b. [4]

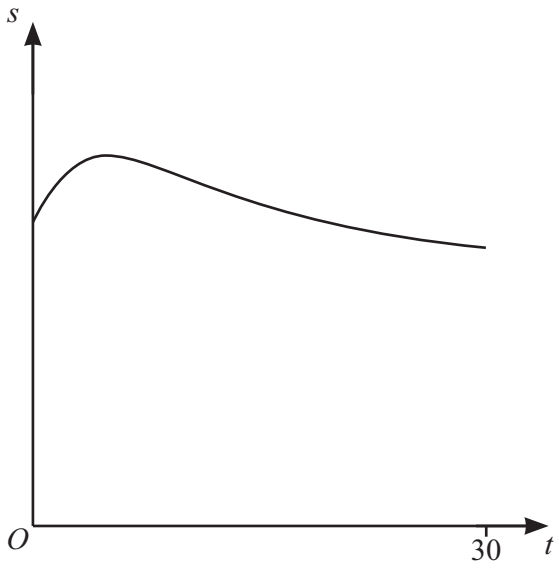
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10 In this question the units are metres and seconds.

A particle moves along a straight line through a point A.

Its displacement, s, from A at time t is given by $s = \dfrac{10t + 100}{\sqrt{2t^2 + 100}}$.

The diagram shows the displacement–time graph for the first 30 seconds of the motion.



(a) Find the value of t when s is a maximum. [6]

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