



The variables x and y satisfy the equation $y = 4^{2x-a}$, where a is an integer. As shown in the diagram, the graph of $\ln y$ against x is a straight line passing through the point $(0, -20.8)$, where the second coordinate is given correct to 3 significant figures.

- (a) Show that the gradient of the straight line is $\ln 16$. [2]

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- (b) Determine the value of a . [2]

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