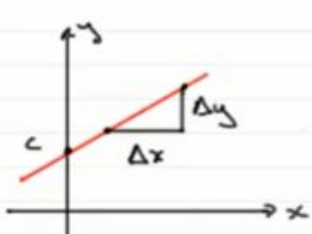
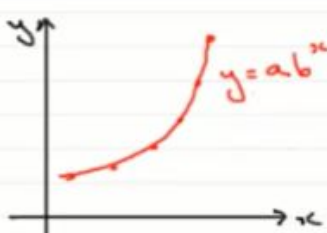
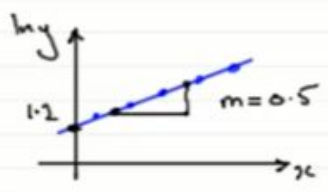




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Modelling Curves using logarithms

$y = mx + c$  c is the y intercept $m = \frac{\Delta y}{\Delta x} = \text{gradient}$	<table border="1"><tr><td>x</td><td>·</td><td>·</td><td>·</td><td>·</td><td>·</td></tr><tr><td>y</td><td>·</td><td>·</td><td>·</td><td>·</td><td>·</td></tr><tr><td>$\ln y$</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table> $y = ab^x$ $\therefore \ln y = \ln ab^x$ $\therefore \ln y = \ln a + \ln b^x$ $\therefore \ln y = \ln a + x \ln b$ $\therefore Y = mX + c$ $Y = \ln y, X = x, m = \ln b$	x	·	·	·	·	·	y	·	·	·	·	·	$\ln y$	-	-	-	-	-	  $\ln a = 1.2$ $\therefore a = e^{1.2} = 3.3 \text{ (1 d.p.)}$ $\ln b = 0.5 \Rightarrow b = e^{0.5} = 1.6 \text{ (1 d.p.)}$ $\therefore y = 3.3(1.6)^x$
x	·	·	·	·	·															
y	·	·	·	·	·															
$\ln y$	-	-	-	-	-															

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