

Start here for  
Question Number: **8**

$$A = Ae^{kt} ?$$

~~h~~

hh . 36

c). i).  $A = 4$

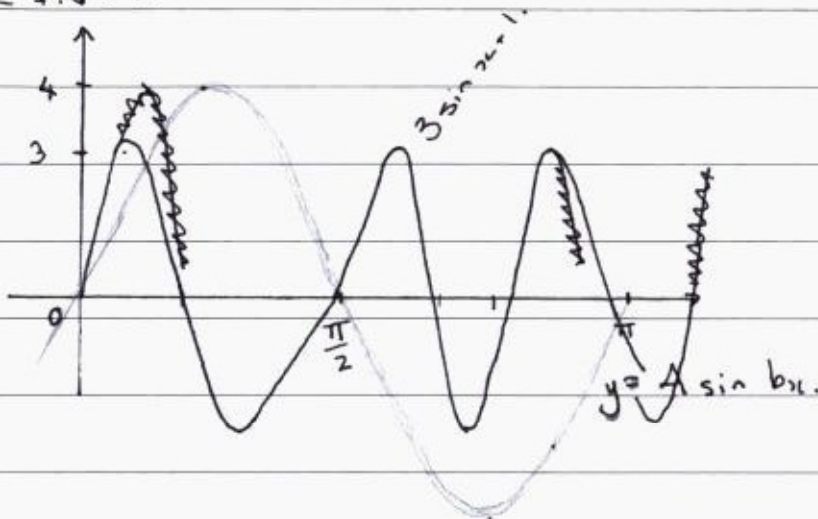
h+

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ii).  $b = 1$

th

iii).



A).

$$A = e^{kt}$$

$$200\,000\,000 = e^{k \cdot 25}$$

$$1022 = e^{k \cdot 25}$$

$$200\,000\,000 = 25k e$$

$$\log_e 200\,000\,000 = 25k \log_e e$$

$$\frac{\log_e 200\,000\,000}{25} = \frac{25k}{25}$$

$$k =$$

b). 0.36

d).  $f(x) = x^3 - 3x^2 + kx + 8$

$$f'(x) = 3x^2 - 6x + k$$

$$= 3(x^2 - 2x + k)$$

total 16  
mark 13.

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