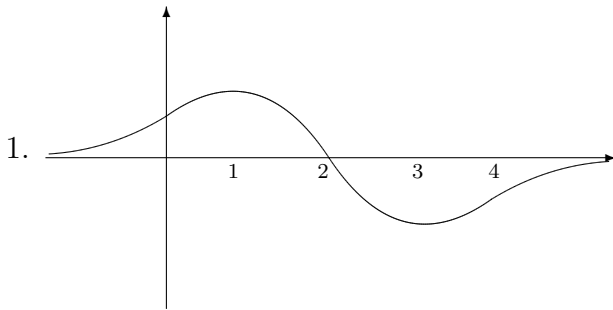


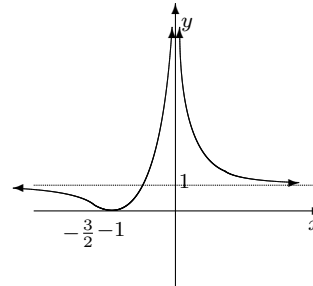


Cal I (S) (Maths 201–NYA)

Answers



2. VA:  $x = 0$  , HA:  $y = 1$  , intercept:  $(-1, 0)$   
 Note:  $y' = \frac{-2(x+1)}{x^3}$  ,  $y'' = \frac{2(2x+3)}{x^4}$   
 CP:  $-1$  ; PI:  $-\frac{3}{2}$  . Graph at right.



3.  $\frac{2}{\sqrt{2}}$  by  $\frac{1}{\sqrt{2}}$
4. (a)  $\frac{\pi^3}{81} - \sqrt{3}$                       (b)  $5/6$                       (c)  $e^x + \frac{5}{8}x^{8/5} - e^2x + C$
5.  $f(x) = x^2 - \cos x - \pi^2 - 1$
6.  $f'(x) = \frac{2x}{1+x^8}$ ; min value is 0 (at  $x = 0$ ;  $f(x) \geq 0$  obviously!).
7.  $128/5$
8.  $\lim_{n \rightarrow \infty} \left( \sum_{i=1}^n \frac{2i}{n} 2^{\frac{4i}{n}} \right) \frac{2}{n}$