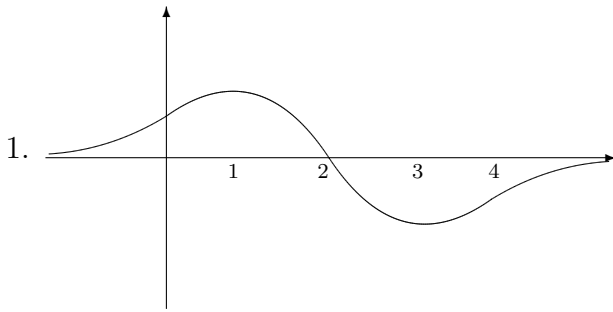


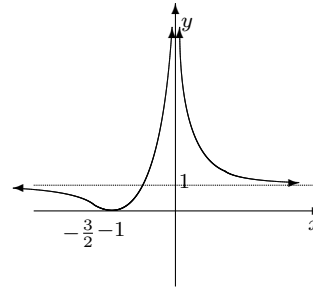


Cal I (S) (Maths 201–NYA)

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. $\frac{1}{\sqrt{2}}$ by $\frac{1}{\sqrt{2}}$
4. (a) $5/6$ (b) $\frac{\pi^3}{648} - \frac{1}{\sqrt{3}}$ (c) $e^2 x + \frac{5}{8}x^{8/5} - e^x + C$
5. $f(x) = x^2 - \sin x - x + \pi - \pi^2$
6. $f'(x) = \frac{2x}{1+x^4}$; min value is 0 (at $x = 0$; $f(x) \geq 0$ obviously!).
7. $128/5$
8. $\lim_{n \rightarrow \infty} \left(\sum_{i=1}^n \frac{2i}{n} 2^{\frac{4i}{n}} \right) \frac{2}{n}$