1.	PROVE
2.	PROVE
3.	$\left(\dfrac{727}{737}, \dfrac{-490}{737}, \dfrac{58}{737} \right)$
4.	$27u^4 - 27u^3 + 90u^2 - 19u + 42 = 0$
5.	$\left(\dfrac{4}{5}, \dfrac{2}{7} \right)$
6.	i) Asymptotes : $y = 4$, $x = 6$ and $x = \dfrac{-3}{2}$ ii) Critical points : $\left(-4, \dfrac{23}{5} \right)$ and $\left(0, \dfrac{7}{3} \right)$
7.	$\dfrac{16\sqrt{2} - 8}{3}$
8.	$(n-1)I_n = (n-2)I_{n-2} - \csc^{n-2}x \cot x$; $I_3 = \dfrac{-1}{2}\ln\left|\csc x + \cot x\right| - \dfrac{1}{2}\csc x \cot x + C$; $I_4 = \dfrac{-2}{3}\cot x - \dfrac{1}{3}\csc^2 x \cot x + C$
9.	$\dfrac{-1}{32}\cos 6\theta + \dfrac{3}{16}\cos 4\theta - \dfrac{15}{32}\cos 2\theta + \dfrac{5}{16}$; $\dfrac{5}{16}$
10.	$10r^4 + 20r^2 + 2$; $\dfrac{n(n+1)(2n+1)(3n^2 + 3n - 1)}{30} = \dfrac{6n^5 + 15n^4 + 10n^3 - 1}{30}$
11E.	i) ii) $r_{max} = 2$ at $\theta = \dfrac{\pi}{2}$ iii) $\dfrac{\pi + \sqrt{3}}{2}$
11O.	$\dfrac{d^2 z}{dx^2} + 5\dfrac{dz}{dx} + 4z = 3e^{7x}$; $y = \left(Ae^{-x} + Be^{-4x} + \dfrac{3}{88}e^{7x} \right)^{\frac{1}{5}}$