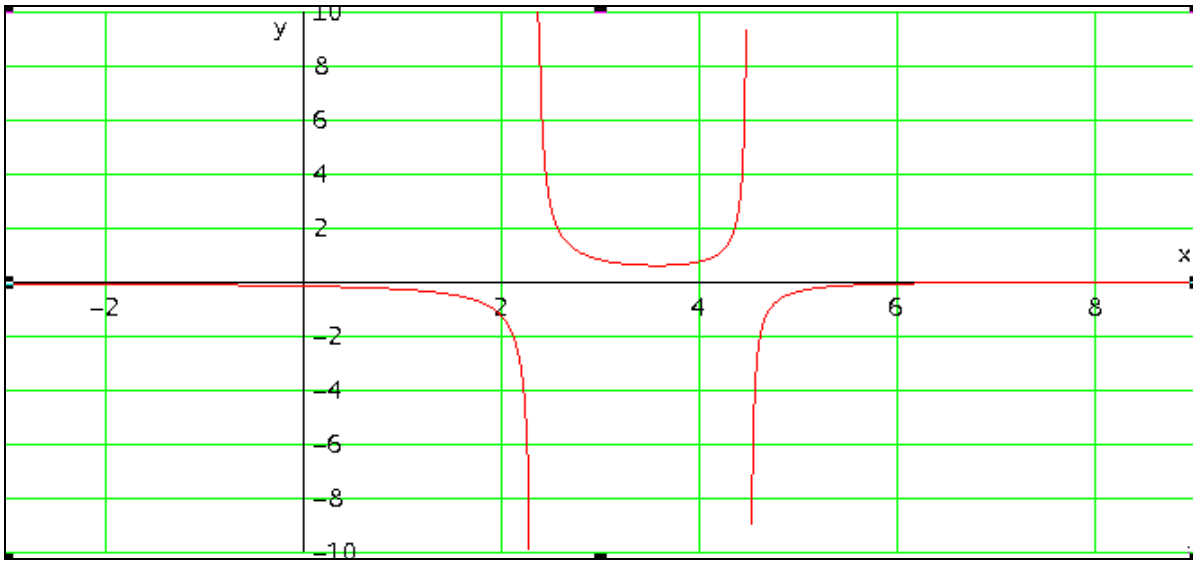


ANSWERS TO SEMESTER ONE EXAMINATION DECEMBER 2008 (JUNE 2008 INTAKE)

| | |
|---|---|
| 1 | PROVE |
| 2 | $\frac{n(13n^2 + 9n + 2)}{6}$ |
| 3 | $9y^4 - 21y^3 - 161y^2 - 195u = 0$ |
| 4 | i) $(4, -9, 3)$ ii) $\frac{a^2b^2c^2}{\sqrt{a^4b^4 + a^4c^4 + b^4c^4}}$ |
| 5 | $\frac{dy}{dx} = \frac{3x^2(1-x^4)}{(1+3x^4)^2}$ <p>$\left(\frac{25}{7}, \frac{49}{78}\right)$ minimum point ; $\left(11, \frac{1}{78}\right)$ maximum point</p> <p>Asymptotes : $y = 0$, $x = \frac{7}{3}$, $x = \frac{9}{2}$.</p> <p>The curve crosses the axes at points : $\left(0, -\frac{17}{126}\right), \left(\frac{51}{7}, 0\right)$.</p>  |