Pure 1 Test

Section A

1. Find, in the form y = mx + c, the equation of the line passing through the points (2, 5) and (5, -1)
2. Show that (x – 2) is not a factor of $x^3 + 3x^2 – 4x – 7$
3. Differentiate $4x^3 – 7x^2 + 9$
4. Make x the subject of the formula $a = {}^3/_x + b$
5. Find the coefficient of x^4 in the expansion of $(x + 3)^7$
6. Find the roots of the equation $2\cos\theta + 1 = 0$ for which $0^o < \theta < 360^o$
7. Find the area under the curve $y = 3x^2 + 4x – 9$ between the lines x = 2 and x = 5
8. Find the range of values of *p* for which the equation $x^2 + 3x + p = 0$ has real roots
9. Find the equation of the circle with centre (2, 5) and passing through (4, 1)

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