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4. Find

$$\int \frac{4x^2 + 1}{2\sqrt{x}} \mathrm{d}x$$

giving the answer in its simplest form.

(5)

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Question 4 continued

Q4

(Total 5 marks)

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5. (a) Find, using algebra, all real solutions of

$$2x^3 + 3x^2 - 35x = 0$$

(3)

(b) Hence find all real solutions of

$$2(y - 5)^6 + 3(y - 5)^4 - 35(y - 5)^2 = 0$$

(4)

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