Mathematics Methods Foundation - worksheet



Each of the questions included here can be solved using the TI-Nspire CX CAS.

Question 1

By applying the remainder theorem, find the remainder when $P(x) = -4x^3 + x^2 - 3x + 7$ is divided by (x + 1).

Response:

Question 2

Solve $x^2 - 8x - 5 = 0$ by completing the square. Give answers in exact values.

Response:

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Question 3

Use calculus techniques to determine the gradient of $f(x) = 4x^2 + 8x - 3$ at the point where x = -2.

Response:

Question 4

For the function $f(x) = \frac{2}{3}x^3 - x^2 - 4x + 2$, use calculus techniques to find any stationary points and determine their nature.

Response:



Solutions



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<u>Q2</u>.

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Complete Square $(x^2 - 8 \cdot x - 5, x)$ $(x - 4)^2 - 21$ solve $((x - 4)^2 - 21 = 0, x)$ $x = -(\sqrt{21} - 4)$ or $x = \sqrt{21} + 4$

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Hence a local maximum turning point at $(-1, \frac{13}{3})$ and a local minimum turning point at $(2, \frac{-14}{3})$.

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