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National 5 Maths
Nature of the Roots

SQA past paper and specimen paper questions and answers by topic

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National 5 Maths
SQA 2013 Specimen
Paper 2 Question 12

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Find the range of values of p such that the equation $px^2 - 2x + 3 = 0,\ p \neq 0,$ has no real roots. **4**

Answer:

$p > \frac{1}{3}$

National 5 Maths
SQA 2016 Paper 1
Question 6

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Determine the nature of the roots of the function $f(x) = 7x^2 + 5x - 1$. 2

Answer:

Discriminant = 53 so there are two distinct real roots.

National 5 Maths
SQA 2018 Paper 1
Question 8

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Determine the nature of the roots of the function $f(x) = 2x^2 + 4x + 5$. **2**

Answer:

Discriminant = –24 so the function has no real roots.

National 5 Maths
SQA 2021 Paper 1
Question 8

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Determine the nature of the roots of the function $f(x) = x^2 + 4x - 7$. **2**

Answer:

Discriminant = 44 so there are two distinct real roots.

National 5 Maths
SQA 2023 Paper 1
Question 5

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Determine the nature of the roots of the function $f(x) = 4x^2 + 6x - 1$. 2

Answer:

Discriminant = 52 so there are two distinct real roots.

National 5 Maths
SQA 2025 Paper 1
Question 11

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Determine the nature of the roots of the function $f(x) = 3x^2 + 2x + 1$. 2

Answer:

Discriminant = –8 so there are no real roots.