



National 5 Maths Surds

SQA past paper and specimen paper
questions and answers by topic

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National 5 Maths
SQA 2013 Specimen
Paper 1 Question 5

Express $\frac{4}{\sqrt{6}}$ with a rational denominator in its simplest form.

2

Answer:

$$\frac{2\sqrt{6}}{3}$$

National 5 Maths
SQA 2014 Paper 1
Question 8

Express $\sqrt{40} + 4\sqrt{10} + \sqrt{90}$ as a surd in its simplest form.

3

Answer:

$$9\sqrt{10}$$

National 5 Maths
SQA 2015 Paper 1
Question 13

Express $\frac{4}{\sqrt{8}}$ with a rational denominator.

Give your answer in its simplest form.

3

Answer:

$$\sqrt{2}$$

National 5 Maths
SQA 2016 Paper 1
Question 9

The function $f(x)$ is defined by $f(x) = \frac{2}{\sqrt{x}}$, $x > 0$.

Express $f(5)$ as a fraction with a rational denominator.

2

Answer:

$$\frac{2\sqrt{5}}{5}$$

National 5 Maths
SQA 2018 Paper 1
Question 11

Express $\frac{9}{\sqrt{6}}$ with a rational denominator.

Give your answer in its simplest form.

2

Answer:

$$\frac{3\sqrt{6}}{2}$$

National 5 Maths
SQA 2019 Paper 1
Question 12

Express $\frac{\sqrt{2}}{\sqrt{40}}$ as a fraction with a rational denominator.

Give your answer in its simplest form.

3

Answer:

$$\frac{\sqrt{5}}{10}$$

National 5 Maths
SQA 2021 Paper 1
Question 9

Express $\sqrt{50} + \sqrt{45} - \sqrt{2}$ in its simplest form.

3

Answer:

$$4\sqrt{2} + 3\sqrt{5}$$

National 5 Maths
SQA 2022 Paper 1
Question 13

Expand and simplify $\sqrt{10}(\sqrt{10} - \sqrt{2}) + 8\sqrt{5}$.

3

Answer:

$$10 + 6\sqrt{5}$$

National 5 Maths
SQA 2023 Paper 1
Question 8

Express $\frac{12}{\sqrt{15}}$ with a rational denominator.

Give your answer in its simplest form.

2

Answer:

$$\frac{4\sqrt{15}}{5}$$

National 5 Maths
SQA 2024 Paper 1
Question 6

Simplify $\sqrt{75} - \sqrt{3}$.

2

Answer:

$$4\sqrt{3}$$

National 5 Maths
SQA 2025 Paper 1
Question 12

Express $\frac{6}{\sqrt{10}}$ with a rational denominator.

Give your answer in its simplest form.

2

Answer:

$$\frac{3\sqrt{10}}{5}$$