Maths.scot

National 5 Maths Indices

SQA past paper and specimen paper questions and answers by topic

BE GREEN
KEEP IT ON
THE SCREEN

(a) Multiply out the brackets and simplify:

$$x^{\frac{1}{2}}\left(x^{-\frac{3}{2}} + x^{-\frac{1}{2}} \right).$$

2

(b) Find the exact value of this expression when $x = 6$.

1

Answers:

(a) $x^{-1} + 1$ or equivalent

(b) $1\frac{1}{6}$ or $\frac{7}{6}$

Simplify $\dfrac{n^5 \times 10n}{2n^2}$.

3

Answer:

$5n^4$

Evaluate $8^{\frac{5}{3}}$.

2

Answer:

32

Simplify $\left(n^2\right)^3 \times n^{-10}$.

Give your answer with a **positive** power.

3

Answer:

$$\frac{1}{n^4}$$

Express $\dfrac{1}{\sqrt[3]{x}}$ in the form x^n.

2

Answer:

$$x^{-\frac{1}{3}}$$

Remove the brackets and simplify $\left(\dfrac{2}{3}p^4\right)^2$.

2

Answer:

$\dfrac{4}{9}p^8$

Simplify $\dfrac{a^4 \times 3a}{\sqrt{a}}$. **3**

Answer:

$3a^{\frac{9}{2}}$

Evaluate $16^{\frac{3}{2}}$.

2

Answer:

64

Simplify $\left(m^{-2}\right)^4 \times m^{-5}$.

Give your answer with a **positive** power.

3

Answer:

$$\frac{1}{m^{13}}$$

Simplify $\dfrac{5c^{-2}}{c^3 \times c^4}$.

Give your answer with a **positive** power.

3

Answer:

$\dfrac{5}{c^9}$