GCSE HIGHER · REVISION MAT 1

Laws of indices

1 Write as a single power of 5.

$5^3 \times 5^4$

2 Work out the value of

2^{-3}

3 Show that

$(3^2)^3 \div 3^4 = 9$

4 Find the value of n.

$8 \times 2^n = 2^{10}$

5 Show that

$27^{2/3} = 9$

6 Write as a single power of 2.

$4^x \times 8$

7 Show that

$\left(\frac{16}{81}\right)^{-3/4} = \frac{27}{8}$

8 Solve

$9^{x+1} = 27^x$

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Laws of indices

1 5^7

2 $\frac{1}{8}$

3 $3^6 \div 3^4 = 3^2$

$= 9$

4 $2^3 \times 2^n = 2^{10}$

$n = 7$

5 $(\sqrt[3]{27})^2 = 3^2$

$= 9$

6 $2^{2x} \times 2^3$

2^{2x+3}

7 $(\frac{81}{16})^{3/4}$

$(\frac{3}{2})^3$

$= \frac{27}{8}$

8 $3^{2x+2} = 3^{3x}$

$2x + 2 = 3x$

$x = 2$

Mr&Mrs MATHS