GCSE HIGHER · REVISION MAT 3

Laws of indices

1 Write as a single power of 6.

$(6^2)^3$

2 Work out the value of

10^{-2}

3 Show that $2^3 \times 2^2 \neq 4^5$.

4 Write 0.001 as a power of 10 and $\frac{1}{32}$ as a power of 2.

5 Show that

$64^{1/3} \times 16^{1/2} = 16$

6 Find x.

$5^{2x} = 125$

7 Show that

$\left(\frac{27}{8}\right)^{-2/3} = \frac{4}{9}$

8 Write as a single power of 2.

$\frac{\sqrt{8}}{4^{-1}}$

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Laws of indices

1 6^6

2 0.01

3 $2^3 \times 2^2 = 2^5 = 32$

$4^5 = 1024$

4 10^{-3} and 2^{-5}

5 4×4

$= 16$

6 $5^{2x} = 5^3$

$x = 1.5$

7 $(\frac{8}{27})^{2/3} = (\frac{2}{3})^2$

$= \frac{4}{9}$

8 $\frac{2^{3/2}}{2^{-2}}$

$2^{7/2}$

Mr&Mrs MATHS