GCSE HIGHER · REVISION MAT 2

Powers and roots

1 Work out

11^2

2 Work out

$\sqrt[3]{-27}$

3 Is 1000 a square number, a cube number or both?

Explain.

4 Find the smallest number greater than 1 that is both a square and a cube.

5 Show that

$(\sqrt{7})^2 + (\sqrt[3]{8})^3 = 15$

6 Estimate $\sqrt{40}$ to 1 decimal place without a calculator.

7 Show that $3^4 = 9^2$.

8 The cubes of two consecutive positive integers add up to 91.

Find the integers.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Powers and roots

1 **121**

2 **−3**

3 $10^3 = 1000$

$31^2 = 961$, $32^2 = 1024$

A cube number only

4 Squares: 4, 9, 16, 25, 36, 49, 64

$64 = 4^3$

64

5 7 + 8

= 15

6 $6^2 = 36$, $6.5^2 = 42.25$, $6.3^2 = 39.69$

≈ 6.3

7 $3^4 = 81$

$9^2 = 81$

8 1, 8, 27, 64, 125

27 + 64 = 91

3 and 4

Mr&Mrs MATHS