GCSE HIGHER · REVISION MAT 3

Powers and roots

1 Work out

$5^3 - 10^2$

2 Work out

$\sqrt{144} \div \sqrt[3]{64}$

3 Explain why -8 has a cube root but no square root.

4 A cube has a volume of 343 cm^3.

Find its surface area.

5 Show that

$\sqrt{36 + 64} \neq \sqrt{36} + \sqrt{64}$

6 Between which two whole numbers is $\sqrt[3]{100}$?

7 Show that

$(-2)^5 + 2^5 = 0$

8 Find all the whole numbers n for which

$n^2 < 200$ and $n^3 > 200$

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Powers and roots

1 $125 - 100$

25

2 $12 \div 4$

3

3 $(-2)^3 = -8$

No number squared gives a negative answer.

4 Side $\sqrt[3]{343} = 7$ cm

6×49

294 cm²

5 $\sqrt{100} = 10$

$6 + 8 = 14 \neq 10$

6 $4^3 = 64$, $5^3 = 125$

4 and 5

7 $-32 + 32$

= 0

8 $n^3 > 200 \Rightarrow n \geq 6$

$n^2 < 200 \Rightarrow n \leq 14$

6, 7, 8, ..., 14