GCSE FOUNDATION · REVISION MAT 3

Laws of indices

1 Simplify

(a) $a^6 \times a^4$

(b) $a^{10} \div a^6$

2 Simplify

(a) $(a^2)^5$

(b) $6a \times 2a^3$

3 Hope says,

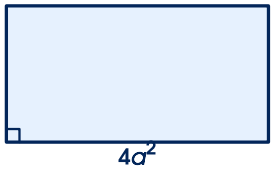
"$a^4 \times a^3 = a^{12}$"

Explain the mistake Hope has made.

4 Show that

$18a^5n \div 3an = 6a^4$

5 A rectangle has area $28a^6$ cm^2. Its length is $4a^2$ cm.



Find an expression for the width.

6 Find the value of n.

$a^n \times a^5 = a^{12} \div a^4$

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Laws of indices

1 (a) a^{10}

(b) a^4

2 (a) a^{10}

(b) $12a^4$

3 When you multiply, you **add** the powers, not multiply them.

$a^4 \times a^3 = a^7$

4 $18 \div 3 = 6$

$a^5 \div a = a^4$

$n \div n = 1$ ✓

5 $28a^6 \div 4a^2$

$= 7a^4$

6 $a^{12} \div a^4 = a^8$

$n + 5 = 8$

$n = 3$