GCSE HIGHER · REVISION MAT 5

Factors, multiples and primes

1 Write 150 as a product of prime factors.

2 Find the HCF and the LCM of 16 and 40.

3 Explain why a number ending in 5, other than 5 itself, cannot be prime.

4 Sausages come in packs of 10 and rolls in packs of 8.

What is the fewest packs of each needed to have the same number?

5 Show that $2^2 \times 3 \times 7$ is a factor of $2^3 \times 3^2 \times 7$.

6 A 45 cm by 75 cm rectangle is split into identical squares, as large as possible.

How many squares are there?

7 Show that $3^4 \times 5^2$ is a square number and find its square root.

8 Two numbers have HCF 6 and LCM 72.

Neither number is 6 or 72.

Find the two numbers.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Factors, multiples and primes

1 **$2 \times 3 \times 5^2$**

2 **HCF 8, LCM 80**

3 **It is a multiple of 5, so 5 is a factor.**

4 LCM(10, 8) = 40

4 packs of sausages, 5 packs of rolls

5 $\frac{2^3 \times 3^2 \times 7}{2^2 \times 3 \times 7} = 2 \times 3$

= 6, a whole number

6 HCF(45, 75) = 15

3×5

15 squares

7 Both powers are even.

$3^2 \times 5 = 45$

8 Product = $6 \times 72 = 432$

$6a \times 6b$ with $ab = 12$,
no common factor

18 and 24

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