GCSE HIGHER · REVISION MAT 2

Factors, multiples and primes

1 Write 84 as a product of prime factors.

2 Find the lowest common multiple of 15 and 20.

3 Sam says every odd number is prime.

Give a counterexample.

4 Pens come in packs of 6 and pencils in packs of 8.

Tom wants the same number of pens and pencils.

What is the fewest packs of each?

5 Show that $2^2 \times 3 \times 5$ and $2 \times 3^2 \times 7$ have HCF 6.

6 Three lights flash every 8, 12 and 20 seconds.

They flash together at noon.

How many more times do they flash together in the next 10 minutes?

7 $1764 = 2^2 \times 3^2 \times 7^2$

Show that 1764 is a square number and find its square root.

8 Find the smallest whole number k such that $180k$ is a cube number.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Factors, multiples and primes

1 $2^2 \times 3 \times 7$

2 60

3 e.g. $9 = 3 \times 3$

4 LCM(6, 8) = 24

4 packs of pens, 3 packs of pencils

5 Common primes: one 2 and one 3

$2 \times 3 = 6$

6 LCM = 120 s

$600 \div 120$

5 times

7 All powers are even.

$\sqrt{1764} = 2 \times 3 \times 7 = 42$

8 $180 = 2^2 \times 3^2 \times 5$

Need $2 \times 3 \times 5^2$

$k = 150$

Mr&Mrs MATHS