

HCF and LCM from Prime Factorisation

Given that:

$$A = 2^3 \times 5^4 \qquad B = 2^4 \times 3^3 \times 7$$

$$C = 2^2 \times 3 \times 5^3 \qquad D = 2 \times 3^5 \times 5$$

$$E = 3^2 \times 5 \times 7^3 \qquad F = 2^2 \times 7^3 \times 11$$

$$G = 2^4 \times 3 \times 5^2 \times 13$$

Giving your answers as a product of prime factors, find the highest common factor of:

- (a) A and D (b) B and C
(c) D and E (d) C and G

Giving your answers as a product of prime factors, find the lowest common multiple of:

- (a) A and C (b) C and D
(c) B and F (d) E and G

Giving your answers as a product of prime factors:

- (a) Find the HCF of A, C and D
(b) Find the HCF of C, E and G
(c) Find the LCM of A, C and D
(d) Find the LCM of C, D and G

Giving your answers as a product of prime factors:

- (a) Find the HCF of 8A and B
(b) Find the HCF of 5B and E
(c) Find the LCM of C and 10D
(d) Find the LCM of 8D and G

$$H = 2^x \times 5^y \times 7^2$$

Given that the HCF of H and F is 98 and the LCM of H and F is $2^2 \times 5^3 \times 7^3 \times 11$, find the values of x and y .

RED

$$(a) 2 \times 5$$

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

$$(c) 3^2 \times 5$$

$$(d) 2^2 \times 3 \times 5^2$$

YELLOW

$$(a) 2^3 \times 3 \times 5^4$$

$$(b) 2^2 \times 3^5 \times 5^3$$

$$(c) 2^4 \times 3^3 \times 7^3 \times 11$$

$$(d) 2^4 \times 3^2 \times 5^2 \times 7^3 \times 13$$

GREEN

$$(a) 2 \times 5$$

$$(b) 3 \times 5$$

$$(c) 2^3 \times 3^5 \times 5^4$$

$$(d) 2^4 \times 3^5 \times 5^3 \times 13$$

PURPLE

$$(a) 8A = 2^6 \times 5^4$$

$$\text{HCF} = 2^4$$

$$(b) 5B = 2^4 \times 3^3 \times 5 \times 7$$

$$\text{HCF} = 3^2 \times 5 \times 7$$

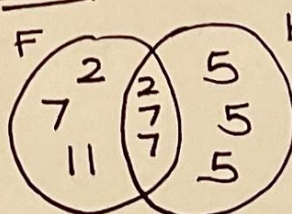
$$(c) 10D = 2^2 \times 3^5 \times 5^2$$

$$\text{LCM} = 2^2 \times 3^5 \times 5^3$$

$$(d) 8D = 2^4 \times 3^5 \times 5$$

$$\text{LCM} = 2^4 \times 3^5 \times 5^2 \times 13$$

BLUE



$$H = 2 \times 5^3 \times 7^2$$

$$x = 1$$

$$y = 3$$