

Factors

11 décembre 2014 12:02

Factors are numbers/letters that a term can be divided ^{by} and leave no remainder.

Prime Factors

These are factors that are also prime numbers.

Find the **prime factors** of :

i) $9 - 1, 9$
 3

ii) $35 - 1, 35$
 $5, 7$

iii) $20 - 1, 20$
 $2, 10$
 $4, 5$

iv) $8x^2y - 1, 8x^2y$
 $2, 4$

Greatest Common Factors (GCF)

The GCF is the highest factor in a set of given terms.

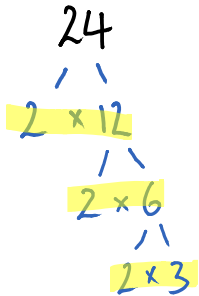
Find the GCF of :

Prime Numbers:
2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103, 107, 109, 113, 127, 131, 137, 139, 149, 151, 157, 163, 167, 173, 179, 181, 187, 191, 193, 197, 199, 211, 223, 227, 229, 233, 239, 241, 251, 257, 263, 269, 271, 277, 281, 283, 293, 307, 311, 313, 317, 331, 337, 347, 349, 353, 359, 367, 373, 379, 383, 389, 397, 401, 409, 419, 421, 431, 433, 439, 443, 449, 457, 461, 463, 467, 479, 487, 491, 499, 503, 509, 521, 523, 527, 539, 541, 547, 557, 563, 569, 571, 577, 587, 593, 599, 601, 607, 613, 617, 619, 631, 641, 643, 647, 653, 659, 661, 673, 677, 683, 689, 691, 697, 701, 709, 713, 727, 731, 733, 739, 743, 751, 757, 761, 769, 773, 787, 791, 797, 809, 811, 821, 823, 827, 833, 839, 841, 853, 857, 859, 863, 877, 881, 883, 887, 893, 899, 907, 911, 913, 919, 929, 937, 941, 947, 953, 967, 971, 977, 983, 991, 997

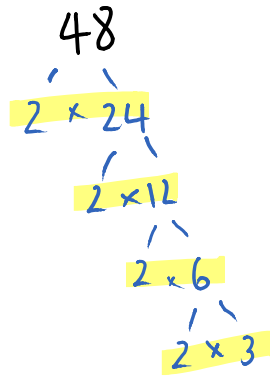
find the HCF of :

Prime Numbers:
2, 3, 5, 7, 11, 13, 17, 19, ...

i) 24 and 48



$$24 = 2 \times 2 \times 2 \times 3$$

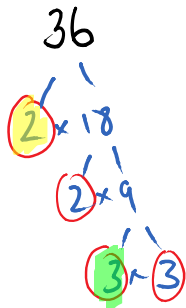


$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

$$\text{GCF} = 2 \times 2 \times 2 \times 3$$

$$\underline{\underline{\text{GCF} = 24}}$$

ii) 36 and 42



$$\text{GCF} = 2 \times 3$$

$$\text{GCF} = 6$$

iii) $2x^2$ and $4x$

$$2x^2 = 2 \times x \times x$$

$$4x = 2 \times 2 \times x$$

$$\text{GCF} = 2 \times x$$

$$\underline{\underline{\text{GCF} = 2x}}$$

iv) $2x^3y$ $4x^2y^2$ $12x^2y$

$$2x^3y = 2 \times x \times x \times x \times y$$

$$4x^2y^2 = 2 \times 2 \times x \times x \times y \times y$$

$$12x^2y = 2 \times 2 \times 3 \times x \times x \times y$$

$$12 = 2 \times 2 \times 3$$

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$$\text{GCF} = 2 \times x \times x \times y$$

$$\underline{\underline{\text{GCF} = 2x^2y}}$$

Factor fully

$$\textcircled{8} \quad 18a^2b^3 = 2 \times 3 \times 3 \times a \times a \times b \times b \times b$$



$$(10) \quad 10x^2y = 2 \times 5 \times x \times x \times y$$

