

SM3 VOCAB 2-1 (Factoring)

Factor (noun) a number or expression that is being multiplied.

$2x$ Has factors: 2 , x . $2(x + 3)$ Has factors: 2 , $(x + 3)$.

Common Factor (noun) a number that is a factor of more than one term in a polynomial.

'2' is a common factor to both terms in the expression: $2x + 6$

Binomial an expression made up of two "unlike" terms that are being added. $2x + 6$

To Factor (verb) to break apart a number or an expression into its factors.

$$18 = 2 \cdot 3 \cdot 3$$

"Factoring out" a common Factor from an expression means to rewrite the expression as the common factor multiplied by the expression.

distributive property: multiply a term times a sum.

$$2(x + 3) = 2x + 6$$


Factoring out the common factor: is the "reverse" of the distributive property

The "Box Method" of multiplying binomials is an arrangement of the two terms in one of the binomials in two separate rows and the two terms of the other binomial as headers of two columns. Rows and columns are multiplied together to obtain four terms that are then added together.

$$(x - 3)(x + 4) \rightarrow \begin{array}{|c|c|c|} \hline & x & 4 \\ \hline x & x^2 & 4x \\ \hline -3 & -3x & -12 \\ \hline \end{array} \rightarrow \boxed{x^2 + x - 12}$$

Conjugate pair (of binomials) two binomials whose terms are exactly the same except +/- for one pair of terms

$$(x - 1)(x + 1)$$