Vocabulary: Factoring Special Products

dictionary2

**Vocabulary**

* Difference of two squares – a binomial consisting of two perfect squares subtracted.
  + A difference of two squares can always be factored: *a*2 – *b*2 = (*a* + *b*)(*a* – *b*).
    - Example: *x*2 – 9 = *x*2 – 32 =(*x* + 3)(*x* – 3)
    - Example: 25*v*2 – 4 = (5*v*)2 – 22 = (5*v* + 2)(5*v* – 2)
* Factor – to express a number or polynomial as a product.
  + Example: 20 = 2 • 2 • 5 = 22 • 5
  + Example: *x*2 – 9 = (*x* + 3)(*x* – 3)
  + The values multiplied together are called *factors*.
* Greatest common factor (GCF) – the largest number or variable expression that divides evenly into a number or polynomial.
  + For example, 6 is the GCF of 18 and 24.
  + For example, 4*x* is the GCF of 4*x*3–8*x*2 + 20*x*.
* Monomial – a number, a variable, or the product of numbers and variables.
  + Some examples of monomials are 7, *y*5, , and –9*ab*2.
  + *Monomials* can also be called *terms*.
  + Any exponents in a monomial must be positive integers.
* Perfect-square trinomial – a trinomial whose factored form is the square of a binomial.
  + Below are two examples of perfect-square trinomials.
    - *b*2 + 6*b* + 9 is a perfect-square trinomial: *b*2 + 6*b* + 9 = (*b* + 3)2
    - 4*a*2 – 20*a* + 25 is a perfect-square trinomial: 4*a*2 – 20*a* + 25 = (2*a* – 5)2
  + All perfect-square trinomials fit one of two patterns:
    - *a*2 + 2*ab* + *b*2 = (*a* + *b*)2
    - *a*2 – 2*ab* + *b*2 = (*a* – *b*)2
* Polynomial – an expression consisting of one or more monomials added to or subtracted from each other.
  + A *binomial* is a polynomial with exactly two terms.
    - * Examples: 5*c*3 – 6, 2*xy* + 7*x*2
  + A *trinomial* is a polynomial with exactly three terms.
    - * Examples: 2*m*2 – 6*m* + 5, 8*a*2 + 21*ab* + 34*b*2