Chapter 5 (p. 382, 5-9)

absolute value of a complex number

absolute value of a complex number: The absolute value of $a + bi$ is the distance from the origin to the point (a, b) in the complex plane and is denoted $|a + bi| = \sqrt{a^2 + b^2}$.

$$|2 + 3i| = \sqrt{2^2 + 3^2} = \sqrt{13}$$

Chapter 5 (p. 352, 5-5)

complex conjugate

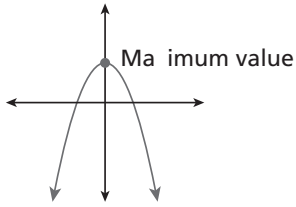
complex conjugate: The complex conjugate of any complex number $a + bi$, denoted $\overline{a + bi}$, is $a - bi$.

$$\overline{4 + 3i} = 4 - 3i$$
$$\overline{4 - 3i} = 4 + 3i$$

Chapter 5 (p. 326, 5-2)

maximum value of a function

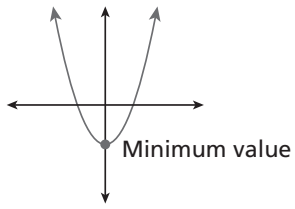
maximum value of a function: The *y*-value of the highest point on the graph of the function.



Chapter 5 (p. 326, 5-2)

minimum value of a function

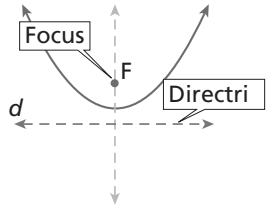
minimum value of a function: The *y*-value of the lowest point on the graph of the function.



Chapter 5 (p. 315, 5-1)

parabola

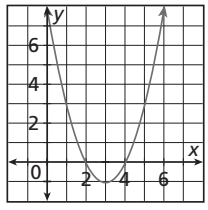
parabola: The shape of the graph of a quadratic function. Also, the set of points equidistant from a point *F*, called the *focus*, and a line *d*, called the *directrix*.



Chapter 5 (p. 315, 5-1)

quadratic function

quadratic function: A function that can be written in the form $f(x) = ax^2 + bx + c$, where *a, b,* and *c* are real numbers and $a \neq 0$.

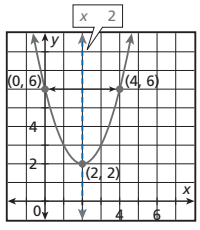


$f(x) = x^2 - 6x + 8$

Chapter 5 (p. 318, 5-1)

vertex form of a quadratic function

vertex form of a quadratic function: A quadratic function written in the form $f(x) = a(x - h)^2 + k$, where *a, h,* and *k* are constants and (h, k) is the vertex.

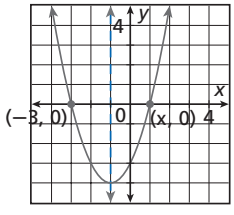


$f(x) = (x - 2)^2 + 2$

Chapter 5 (p. 333, 5-3)

zero of a function

zero of a function: For the function *f*, any number *x* such that $f(x) = 0$.



The zeros of $f(x) = x^2 + 2x - 3$ are -3 and 1.