B · Algebra and functions

AQA · A-Level · Mathematics · Vocabulary in context

Word	Example
function /ˈfʌŋkʃn/	A **function** returns a value.
completing the square /kəmˈpliːtɪŋ ðə skweə/	Use **completing the square** to read a quadratic's turning point.
discriminant /dɪˈskrɪmɪnənt/	A positive **discriminant** gives two distinct real roots.
factor theorem /ˈfæktə ˈθɪərəm/	The **factor theorem** says f(a) = 0 exactly when (x-a) is a factor of f(x). f(a) = 0 (x-a) f(x)
domain /dəˈmeɪn/	Leave zero out of the **domain** when x is on the bottom of a fraction. x
inverse function /ɪnˈvɜːs ˈfʌŋkʃn/	The **inverse function** undoes the original function.
surd /sɜːd/	A **surd** such as √5 is a root that cannot be simplified to a whole number. √5
rationalise the denominator /ˈræʃənəlaɪz ðə dɪˈnɒmɪneɪtə/	To **rationalise the denominator** of 1/√3, multiply the top and bottom by √3. 1/√3 √3。
conjugate /ˈkɒndʒuːgeɪt/	The **conjugate** of 2 + √3 is 2 − √3. 2 + √3 2 − √3
vertex /ˈvɜːteks/	The **vertex** of $y = (x-2)^2 + 3$ is (2, 3). $y = (x-2)^2 + 3$ (2, 3)
substitute /ˈsʌbstɪtjuːt/	**Substitute** x = 2 into the equation to check whether it is a solution. x = 2
tangent /ˈtændʒənt/	Draw a **tangent** to the curve to find the gradient at one point.

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critical values	For $x^2 - 4 > 0$, the **critical values** are x = −2 and x = 2. $x^2 - 4 > 0$ x = −2 x = 2
region /ˈriːdʒn/	The inequality $y > x^2$ describes a **region** above the curve. $y > x^2$
algebraic division /ˌældʒɪˈbreɪɪk dɪˈvɪʒn/	**Algebraic division** works like long division with numbers.
asymptotes /ˈæsɪmptəʊts/	The graph of y = 1/x has two **asymptotes**, the x-axis and the y-axis. y = 1/x x y
direct proportion /daɪˈrekt prəˈpɔːʃn/	If y is in **direct proportion** to x, doubling x also doubles y. y x x y
inverse proportion /ɪnˈvɜːs prəˈpɔːʃn/	If y is in **inverse proportion** to x, doubling x halves y. y x x y
modulus /ˈmɒdjʊləs/	The **modulus** |x| is the size of x without its sign. |x| x
range /reɪndʒ/	The **range** of $f(x) = x^2$ is all values greater than or equal to zero. $f(x) = x^2$
composite function /ˈkɒmpəzɪt ˈfʌŋkʃn/	A **composite function** fg(x) means f(g(x)): apply g first. fg(x) f(g(x)) g
translation /træn'sleɪʃn/	A **translation** moves every point two units to the left.
stretch /stretʃ/	A **stretch** by factor 2 parallel to the y-axis doubles every y-value. y 2 y
reflection /rɪˈflekʃn/	A **reflection** in the x-axis turns y = f(x) into y = −f(x). x y = f(x) y = −f(x)