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 $1/\sqrt{3}$, multiply the top and bottom by √3. $1/\sqrt{3}$ $\sqrt{3}$。
conjugate /ˈkɒndʒuːgeɪt/	The **conjugate** of $2 + \sqrt{3}$ is $2 - \sqrt{3}$. $2 + \sqrt{3}$ $2 - \sqrt{3}$
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 /'ri:dʒn/	The inequality $y > x^2$ describes a **region** above the curve. $y > x^2$
algebraic division /ˌældʒɪ'breɪɪk dɪ'vɪʒn/	**Algebraic division** works like long division with numbers.
asymptotes /'æsɪmptəʊts/	The graph of $y = 1/x$ has two **asymptotes**, the x-axis and the y-axis. $y = 1/x$ x y
direct proportion /daɪ'rekt prə'pɔ:ʃn/	If y is in **direct proportion** to x, doubling x also doubles y. y x x y
inverse proportion /ɪn'vɜ:s prə'pɔ:ʃn/	If y is in **inverse proportion** to x, doubling x halves y. y x x y
modulus /'mɒdjʊləs/	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 /'kɒmpəzɪt 'fʌŋkʃn/	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 /rɪ'flekʃn/	A **reflection** in the x-axis turns $y = f(x)$ into $y = -f(x)$. x $y = f(x)$ $y = -f(x)$

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