Functions

International Baccalaureate · IB Diploma · Mathematics: Analysis and Approaches · HL · Vocabulary in context

Word	Example
function /ˈfʌŋkʃn/	A **function** returns a value.
gradient /ˈgreɪdɪənt/	The **gradient** of a distance-time graph gives the speed. –
domain /dəˈmeɪn/	Leave zero out of the **domain** when x is on the bottom of a fraction. 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
inverse function /ɪnˈvɜːs ˈfʌŋkʃn/	The **inverse function** undoes the original function.
quadratic function /kwɒˈdrætɪk ˈfʌŋkʃn/	$y = x^2 - 4x + 3$ is a **quadratic function**. $y = x^2 - 4x + 3$
vertex /ˈvɜːteks/	The **vertex** of $y = (x - 2)^2 + 3$ is (2, 3). $y = (x - 2)^2 + 3$ (2, 3)
discriminant /dɪˈskrɪmɪnənt/	A positive **discriminant** gives two distinct real roots.
asymptote /ˈæsɪmptəʊt/	The graph of $y = e^x$ has a horizontal **asymptote** at $y = 0$. $y = e^x$ $y = 0$
exponential function /ˌekspəˈnenʃl ˈfʌŋkʃn/	The **exponential function** e^x is its own derivative. e^x
logarithm /ˈlɒgərɪθəm/	Take the **logarithm** of both sides.

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polynomial /ˌpɒlɪˈnəʊmɪəl/	$3x^2 + 2x - 1$ is a **polynomial**. $3x^2 + 2x - 1$
remainder theorem /rɪˈmeɪndə ˈθɪərəm/	By the **remainder theorem**, $x^3 - 2$ divided by $x - 1$ leaves remainder -1. $x^3 - 2$ $x - 1$ -1
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)
even function /ˈiːvən ˈfʌŋkʃən/	x^2 is an **even function**: $f(-x) = f(x)$. x^2 $f(-x) = f(x)$
odd function /ɒd ˈfʌŋkʃən/	x^3 is an **odd function**: $f(-x) = -f(x)$. x^3 $f(-x) = -f(x)$