# 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. |



exercises.lol exercises.com.cn

| Word | Example |
| --- | --- |
| **polynomial** /ˌpɒlɪˈnəʊmɪəl/ | $3x^2 + 2x - 1$ is a **polynomial**.<br>$3x^2 + 2x - 1$ |
| **remainder theorem** /rɪˈmeɪndə ˈθɪərəm/ | By the **remainder theorem**, $x^3 - 2$ divided by $x - 1$ leaves remainder $-1$.<br>$x^3 - 2$ $x - 1$ $-1$ |
| **factor theorem** /ˈfæktə ˈθɪərəm/ | The **factor theorem** says $f(a) = 0$ exactly when (x-a) is a factor of f(x).<br>$f(a) = 0$ (x-a) f(x) |
| **even function** /ˈiːvən ˈfʌŋkʃən/ | $x^2$ is an **even function**: $f(-x) = f(x)$.<br>$x^2$ $f(-x) = f(x)$ |
| **odd function** /ɒd ˈfʌŋkʃən/ | $x^3$ is an **odd function**: $f(-x) = -f(x)$.<br>$x^3$ $f(-x) = -f(x)$ |



exercises.lol exercises.com.cn