Further Pure Mathematics 3

Pearson Edexcel · International A-Level · Further Mathematics · Vocabulary in context

Word	Example
hyperbolic functions /ˌhaɪpəˈbɒlɪk ˈfʌŋkʃnz/	sinh x and cosh x are **hyperbolic functions**. $\sinh x$ $\cosh x$
catenary /kəˈtiːnəri/	A hanging chain makes the shape of a **catenary**.
asymptote /ˈæsɪmptəʊt/	The graph of $y = e^x$ has a horizontal **asymptote** at $y = 0$. $y = e^x$ $y = 0$
focus /ˈfəʊkəs/	The Sun is at one **focus** of a planet's elliptical orbit.
directrix /daɪˈrektrɪks/	Every point on a parabola is the same distance from the focus and the **directrix**.
ellipse /ɪˈlɪps/	This **ellipse** is wider than it is tall.
hyperbola /haɪˈpɜːbələ/	A **hyperbola** has two separate parts.
eccentricity /ˌeksənˈtrɪsɪti/	The **eccentricity** of a circle is 0. 0
reduction formula /rɪˈdʌkʃn ˈfɔːmjʊlə/	A **reduction formula** links one integral to a simpler one.
arc length /ɑːk leŋθ/	Measure the **arc length** along the curved edge.
surface of revolution /ˈsɜːfɪs ɒv ˌrevəˈluːʃn/	Turn a curve around an axis to make a **surface of revolution**.
vector product /ˈvektə ˈprɒdʌkt/	The **vector product** of two vectors is at right angles to both.

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scalar triple product /ˈskeɪlə ˈtrɪpl ˈprɒdʌkt/	The **scalar triple product** gives the volume of a box made by three vectors.
skew lines /skjuː laɪnz/	**Skew lines** do not meet and are not parallel.
singular /ˈsɪŋgjʊlə/	A **singular** matrix has no matrix inverse.
eigenvector /ˈaɪgənvektə/	The matrix scales an **eigenvector** without changing its line.
eigenvalue /ˈaɪgənvæljuː/	An **eigenvalue** λ satisfies $\mathrm{Ax} = \lambda\mathrm{x}$. λ $\mathrm{Ax} = \lambda\mathrm{x}$
diagonalise /daɪˈægənəlaɪz/	To **diagonalise** a matrix, write it as PDP^{-1}. PDP^{-1}

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