# Further Pure Mathematics 2

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

| Word | Example |
|---|---|
| **method of differences** /ˈmeθəd ɒv ˈdɪfrənsɪz/ | The **method of differences** cancels most terms in a sum. |
| **partial fractions** /ˈpɑːʃl ˈfrækʃnz/ | Use **partial fractions** to split $1/(x(x+1))$ into $1/x - 1/(x+1)$. $1/(x(x+1))$ $1/x - 1/(x+1)$ |
| **Euler's relation** /ˈɔɪləz rɪˈleɪʃn/ | **Euler's relation** says $e^{(i\theta)} = \cos\theta + i\sin\theta$. $e^{(i\theta)} = \cos\theta + i\sin\theta$ |
| **de Moivre's theorem** /də ˈmɔɪvəz ˈθɪərəm/ | **de Moivre's theorem** says $(\cos\theta + i\sin\theta)^n = \cos n\theta + i\sin n\theta$. $(\cos\theta + i\sin\theta)^n = \cos n\theta + i\sin n\theta$ |
| **locus** /ˈləʊkəs/ | The **locus** $\lvert z-2\rvert = 3$ is a circle. $\lvert z-2\rvert = 3$ |
| **perpendicular bisector** /ˌpɜːpənˈdɪkjʊlə baɪˈsektə/ | Every point on the **perpendicular bisector** is the same distance from both ends. |
| **Möbius transformation** /ˈmɜːbɪəs trænsfɔːˈmeɪʃn/ | A **Möbius transformation** maps z to $(az+b)/(cz+d)$. z $(az+b)/(cz+d)$ |
| **integrating factor** /ˈɪntɪgreɪtɪŋ ˈfæktə/ | Multiply by the **integrating factor** to solve the equation. |
| **complementary function** /ˌkɒmplɪˈmentəri ˈfʌŋkʃn/ | The **complementary function** solves the equation with zero on the right. |
| **auxiliary equation** /ɔːkˈsɪlɪəri ɪˈkweɪʒn/ | Solve the **auxiliary equation** to find the complementary function. |
| **particular integral** /pəˈtɪkjʊlə ˈɪntɪgrəl/ | The **particular integral** fits the right-hand side of the equation. |



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| **Maclaurin series** /məˈklɔːrɪn ˈsɪəriːz/ | The **Maclaurin series** for $e^x$ is $1 + x + x^2/2! + \ldots$. $e^x$ $1 + x + x^2/2! + \ldots$ |
| **Taylor series** /ˈteɪlə ˈsɪəriːz/ | A **Taylor series** builds a function from its derivatives at one point. |
| **polar coordinates** /ˈpəʊlə kəʊˈɔːdɪnəts/ | Use **polar coordinates** to give position as distance and angle. |
| **initial line** /ɪˈnɪʃl laɪn/ | Angles in polar coordinates are measured from the **initial line**. |
| **cardioid** /ˈkɑːdiɔɪd/ | $r = 1 + \cos\theta$ draws a heart-shaped **cardioid**. $r = 1 + \cos\theta$ |
| **lemniscate** /ˈlemnɪskeɪt/ | A **lemniscate** looks like a figure eight. 8 |



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