

Grade descriptors

This document is a compilation of descriptions (grade descriptors) of each grade for each group of subjects in the IB diploma programme. Grade descriptors consist of characteristics of performance at each grade. The descriptors apply to groups of subjects but substantial similarity exists across sets of group grade descriptors.

Senior examiners use these grade descriptors when determining grade boundaries for examination papers and coursework components. For each grade, qualities of a typical performance are given. However the work of few candidates will be consistently characterised by a single grade descriptor, most work will display some of the characteristics of more than one grade. Senior examiners therefore review the work of many candidates to determine a grade boundary – the lowest mark at which characteristics of a grade are consistently shown in candidate work – allowing for some compensation across the different aspects.

The grade descriptors are intended to help teachers explain the academic requirements of the IB diploma programme to students, undertake formative assessment, report progress and prepare predicted grades.

Group 5 (mathematics) grade descriptors

Grade 7

Demonstrates a thorough knowledge and comprehensive understanding of the syllabus; successfully constructs and applies mathematical arguments at a sophisticated level in a wide variety of contexts; successfully uses problem-solving techniques in challenging situations; recognizes patterns and structures, makes generalizations and justifies conclusions; understands and explains the significance and validity of results, and draws full and relevant conclusions; communicates mathematics in a clear, effective and concise manner, using correct techniques, notation and terminology; demonstrates the ability to integrate knowledge, understanding and skills from different areas of the course; uses technology correctly in challenging situations—makes efficient use of calculator's functionality when required.

Grade 6

Demonstrates a broad knowledge and comprehensive understanding of the syllabus; successfully constructs and applies mathematical arguments in a variety of contexts; uses problem-solving techniques in challenging situations; recognizes patterns and structures, and makes some generalizations; understands and explains the significance and validity of results, and draws relevant conclusions; communicates mathematics in a clear and effective manner, using correct techniques, notation and terminology; demonstrates some ability to integrate knowledge, understanding and skills from different areas of the course; uses technology correctly in routine situations—makes efficient use of calculator's functionality when required.

Grade 5

Demonstrates a broad knowledge and good understanding of the syllabus; applies mathematical arguments in performing routine tasks; successfully uses problem-solving techniques in routine situations; successfully carries out mathematical processes in a variety of contexts, and recognizes patterns and structures; understands the significance of results and draws some conclusions; communicates mathematics effectively, using appropriate techniques, notation and terminology; demonstrates an awareness of the links between different areas of the course; makes use of calculator's functionality when required—may occasionally be inefficient.

Grade 4

Demonstrates a satisfactory knowledge of the syllabus; applies mathematical arguments in performing some routine tasks; uses problem-solving techniques in routine situations; successfully carries out mathematical processes in straightforward contexts; shows some ability to recognize patterns and structures; has limited understanding of the significance of results and attempts to draw some conclusions; communicates mathematics adequately, using some appropriate techniques, notation and terminology; makes some use of calculator's functionality, but perhaps not always when required—may be inefficient at times.

Grade 3

Demonstrates partial knowledge of the syllabus and limited understanding of mathematical arguments in performing some routine tasks; attempts to carry out mathematical processes in straightforward contexts; makes an attempt to use problem-solving techniques in routine situations; communicates some

mathematics, using some appropriate techniques, notation or terminology; occasionally uses calculator's functionality, but often inefficiently; does not always use it when required and may use an inefficient analytic approach.

Grade 2

Demonstrates limited knowledge of the syllabus; attempts to carry out mathematical processes at a basic level; communicates some mathematics, but often uses inappropriate techniques, notation or terminology; unable to use calculator correctly when required—questions exclusively requiring the use of the GDC are generally not attempted.

Grade 1

Demonstrates minimal knowledge of the syllabus; demonstrates little or no ability to use mathematical processes, even when attempting routine tasks; communicates only minimal mathematics and consistently uses inappropriate techniques, notation or terminology; is unable to make effective use of technology.