



**Schola Europaea**

Office of the Secretary-General

**Pedagogical Development Unit**

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## **Attainment descriptors - Mathematics 4P and 6P - S4 - S5**

**APPROVED BY THE JOINT TEACHING COMMITTEE AT ITS MEETING OF 13 AND 14  
OCTOBER 2016 IN BRUSSELS**

**Entry into force on 1 September 2018**

## **Attainment descriptors - Mathematics 4 P and 6 P - S4 - S5**

### **Grade A (9.0 - 10 – Excellent)**

Demonstrates a comprehensive knowledge of the syllabus; shows thorough understanding of mathematical terms, symbols, processes and principles in all areas of the programme; successfully carries out mathematical processes in all areas of the syllabus; translates challenging problems into mathematical symbols and reasons to a correct result; draws full and relevant conclusions from information, evaluates reasonableness of results and recognises own errors; consistently presents reasoning and results in a clear, effective and concise manner; uses mathematical terminology and notation correctly; makes and uses connections between different parts of the syllabus and applies concepts to unfamiliar situations; uses technology appropriately and creatively in a wide range of situations.

### **Grade B (8.0 - 8.9 – Very good)**

Demonstrates a broad knowledge of the syllabus; shows broad understanding of mathematical terms, symbols, processes and principles in all areas of the programme; successfully carries out mathematical processes in most areas of the syllabus; translates some non-routine problems into mathematical symbols and reasons to a correct result; draws relevant conclusions from information, evaluates reasonableness of results and recognises own errors; consistently presents reasoning and results in a clear and effective manner; uses mathematical terminology and notation correctly; makes some connections between different parts of the syllabus and sometimes applies concepts to unfamiliar situations; uses technology appropriately in a wide range of situations.

### **Grade C (7.0 - 7.9 – Good)**

Demonstrates a good knowledge of the syllabus; shows satisfactory understanding of mathematical terms, symbols, processes and principles in all areas of the programme; successfully carries out mathematical processes in a variety of contexts; translates routine problems into mathematical symbols and reasons to a correct result; draws relevant conclusions from information and attempts to evaluate reasonableness of results; generally presents reasoning and results in a clear and effective manner; uses mathematical terminology and notation correctly; attempts to apply concepts to unfamiliar situations; uses technology appropriately most of the time.

**Grade D** (6.0 - 6.9 – Satisfactory)

Demonstrates satisfactory knowledge of the syllabus; shows satisfactory understanding of mathematical terms, symbols, processes and principles in most areas of the programme; successfully carries out mathematical processes in straightforward contexts; translates routine problems into mathematical symbols and reasons to a result; attempts to draw conclusions from information given; shows some understanding of the reasonableness of results; generally presents reasoning and results effectively; uses mathematical terminology and notation correctly; applies concepts in familiar situations; uses technology satisfactorily most of the time.

**Grade E** (5.0 - 5.9 – Sufficient)

Demonstrates satisfactory knowledge of most areas of the syllabus; understands the meaning of straightforward mathematical terms, symbols, processes and principles, but misses the deeper concepts; attempts to carry out mathematical processes in straightforward contexts; translates routine problems into mathematical symbols and attempts to reason to a result; attempts to draw conclusions from information and shows limited understanding of the reasonableness of results; generally presents reasoning and results adequately using some mathematical terminology and notation; applies basic concepts in familiar situations; uses technology satisfactorily in straightforward situations.

**Grade F** (3.0 - 4.9 – Failed/Weak)

Demonstrates only partial knowledge of the syllabus; shows limited understanding of mathematical terms, symbols, processes and principles; carries out mathematical processes in straightforward contexts, but makes frequent errors; makes little attempt to interpret information; attempts to present reasoning and results using mathematical terms; uses technology to a limited extent.

**Grade FX** (0 - 2.9 – Failed/Very weak)

Demonstrates very little knowledge of the syllabus; shows very little understanding of mathematical terms, symbols, processes and principles; attempts to carry out mathematical processes but makes frequent errors; displays insufficient reasoning and use of mathematical terms; does not use technology satisfactorily.

## Annex – Attainment descriptors – Mathematics 4 P and 6 P – S4 - S5

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>FX</b>
	(9.0 - 10 Excellent)	(8.0 - 8.9 Very good)	(7.0 - 7.9 Good)	(6.0 - 6.9 Satisfactory)	(5.0 - 5.9 Sufficient)	(3.0 - 4.9 Failed/Weak)	(0 - 2.9 Failed/Very weak)
<b>Knowledge</b>	Demonstrates a comprehensive knowledge of the syllabus	Demonstrates a broad knowledge of the syllabus	Demonstrates good knowledge of the syllabus	Demonstrates satisfactory knowledge of the syllabus	Demonstrates satisfactory knowledge of most areas of the syllabus	Demonstrates only partial knowledge of the syllabus	Demonstrates very little knowledge of the syllabus
<b>Comprehension</b>	Shows thorough understanding of mathematical terms, symbols, processes and principles in all areas of the programme	Shows broad understanding of mathematical terms, symbols, processes and principles in all areas of the programme	Shows satisfactory understanding of mathematical terms, symbols, processes and principles in all areas of the programme	Shows satisfactory understanding of mathematical terms, symbols, processes and principles in most areas of the programme	Understands the meaning of straight-forward mathematical terms, symbols, processes and principles, but misses the deeper concepts	Shows limited understanding of mathematical terms, symbols, processes and principles	Shows very little understanding of mathematical terms, symbols, processes and principles
<b>Processes</b>	Successfully carries out mathematical processes in all areas of the syllabus	Successfully carries out mathematical processes in most areas of the syllabus	Successfully carries out mathematical processes in a variety of contexts	Successfully carries out mathematical processes in straightforward contexts	Attempts to carry out mathematical processes in straight-forward contexts	Carries out mathematical processes in straight-forward contexts, but makes frequent errors	Attempts to carry out mathematical processes, but with frequent errors

<b>Problem solving</b>	Translates challenging problems into mathematical symbols and reasons to a correct result	Translates some non-routine problems into mathematical symbols and reasons to a correct result	Translates routine problems into mathematical symbols and reasons to a correct result	Translates routine problems into mathematical symbols and reasons to a result	Translates routine problems into mathematical symbols and attempts to reason to a result	/	/
<b>Interpretation</b>	Draws full and relevant conclusions from information; evaluates reasonableness of results and recognises own errors	Draws relevant conclusions from information, evaluates reasonableness of results and recognises own errors	Draws relevant conclusions from information and attempts to evaluate reasonableness of results	Attempts to draw conclusions from information given, shows some understanding of the reasonableness of results	Attempts to draw conclusions from information and shows limited understanding of the reasonableness of results	Makes little attempt to interpret information	/
<b>Communication</b>	Consistently presents reasoning and results in a clear, effective and concise manner; uses mathematical terminology and notation correctly	Consistently presents reasoning and results in a clear and effective manner; uses mathematical terminology and notation correctly	Generally presents reasoning and results in a clear and effective manner; uses mathematical terminology and notation correctly	Generally presents reasoning and results effectively; uses mathematical terminology and notation correctly	Generally presents reasoning and results adequately; using some mathematical terminology and notation	Attempts to present reasoning and results using mathematical terms	Displays insufficient reasoning and use of mathematical terms

<b>Linking</b>	Makes and uses connections between different parts of the syllabus and applies concepts to unfamiliar situations	Makes some connections between different parts of the syllabus and sometimes applies concepts to unfamiliar situations	Attempts to apply concepts to unfamiliar situations	Applies concepts in familiar situations	Applies basic concepts in familiar situations	/	/
<b>Technology</b>	Uses technology appropriately and creatively in a wide range of situations	Uses technology appropriately in a wide range of situations	Uses technology appropriately most of the time	Uses technology satisfactorily most of the time	Uses technology satisfactorily in straightforward situations	Uses technology to a limited extent	Does not use technology satisfactorily