Mathematics Online Interview (MOI):   
Growth Points

Updated January 2025

## This document provides a detailed breakdown of how ‘Growth Points’ (GP) are assigned throughout the MOI assessment.

The growth points are "stepping stones" along paths to mathematical understanding.

The interview is organised into nine sections with up to seven growth points assessed in each section, which are listed below.

Note: The Foundation Detour aims to test the prior knowledge students bring to primary school. The Foundation Detour results are not included within the Growth Point framework.

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| Section A: Counting | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to state the sequence of number names to 20. | N/A |
| **1** | **Rote counting.**  Rote counts the number sequence to at least 20, but is not yet able to reliably count a collection of that size. | 1c  2a, 2e |
| **2** | **Counting collections.**  Confidently counts a collection of around 20 objects. | 1d |
| **3** | **Counting by 1s (forward/backward, including variable starting points; more/less).**  Counts forwards and backwards from various starting points between 1 and 100; knows numbers before and after a given number. | 2a, 2b, 2c, 2d  3a, 3b  4a, 4b, 4c |
| **4** | **Counting from 0 by 2s, 5s, and 10s.**  Can count from 0 by 2s, 5s, and 10s to a given target. | 4d, 4e |
| **5** | **Counting from x (where x >0) by 2s, 5s, and 10.**  Given a non-zero starting point, can count by 2s, 5s, and 10s to a given target. | 5a, 5b |
| **6** | **Extending and applying counting skills.**  Can count from a non-zero starting point by any single digit number and can apply counting skills in practical task. | 6a, 6b  7a, 7b, 7c |

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| Section B: Place value | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to read, write, interpret and order single digit numbers. | N/A |
| **1** | **Reading, writing, interpreting, and ordering single digit numbers.**  Can read, write, interpret and order single digit numbers. | 8a, 8b, 8c, 8d  9-B,  10a-B, 10b-A, 10b-B  11-B |
| **2** | **Reading, writing, interpreting, and ordering two-digit numbers.**  Can read, write, interpret and order two-digit numbers. | 9-C,  10a-C, 10b-1, 10b-2  11-C  12a, 12b  13 |
| **3** | **Reading, writing, interpreting, and ordering three-digit numbers.**  Can read, write, interpret and order three-digit numbers. | 9-D  10a-D, 10b-3  11-D  14a, 14b  15  16 |
| **4** | **Reading, writing, interpreting, and ordering numbers beyond 1000.**  Can read, write, interpret and order numbers beyond 1000. | 9-E  10a-E, 10b-4  11-E  17  18 |
| **5** | **Extending and applying place value knowledge.**  Can extend and apply knowledge of place value in solving problems. | 19a, 19b, 19c, 19d, 19e  20a, 20b, 20c, 20d |

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| Section C: Addition and Subtraction | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to combine and count two collections of objects | N/A |
| **1** | **Count all (two collections).**  Counts all to find the total of two collections. | 21a, 21a (count on strategy)  21b |
| **2** | **Count on.**  Counts on from one number to find the total of two collections**.** | 21a, 21a (count on strategy)  21b (count all strategy)  22a |
| **3** | **Count back/count down to/count from.**  Given a subtraction situation, chooses appropriately from strategies including count back, count down to and count up from. | 22b  23 |
| **4** | **Basic strategies (doubles, commutativity, adding 10, tens facts, other known facts).**  Given an addition or subtraction problem, strategies such as doubles, commutativity, adding 10, tens facts, and other known facts are evident. | 24a, 24b, 24c, 24d, 24e |
| **5** | **Derived strategies (near doubles, adding 9, build to next ten, fact families, intuitive strategies).**  Given an addition or subtraction problem, strategies such as near doubles, adding 9, build to next ten, fact families and intuitive strategies are evident. | 25a, 25b, 25c, 25d, 25e |
| **6** | **Extending and applying addition and subtraction using basic, derived and intuitive strategies.**  Given a range of tasks (including multi-digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts. | 26a, 26b, 26c, 26d  27a, 27b  28a, 28b, 28c  29 |

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| Section D: Strategies for multiplication and division | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to find the answer in a situation involving multiple groups. |  |
| **1** | **Counting group items as ones (all objects perceived).**  Counting one by one to find the solution in situations involving multiple groups when all objects are modelled or perceived. | 30a (count by 1s), 30b  31a, 31b (share by 1s) |
| **2** | **Modelling multiplication and division (all objects perceived).**  Uses the multiplicative structure of the situation to find the answer when all objects are modelled or perceived. | 30a (skip count/known facts), 30b  31a, 31b (uses groups) |
| **3** | **Partial Modelling multiplication and division (some objects perceived).**  Uses multiplicative structure of the situation to find the answer when objects are partially modelled or perceived. | 32a, 32b  33a, 33b  34a, 34b |
| **4** | **Abstracting multiplication and division (no objects perceived).**  Mentally solves multiplication and division problems (no objects perceived) using the multiplicative structure of the situation. | 35  36  37 |
| **5** | **Basic derived and intuitive strategies for multiplication.**  Mentally solves a range of multiplication problems using strategies that reflect attention to the multiplicative structure such as commutativity and building up from known facts. | 38a, 38b, 38c  39a, 39b, 39c, 39d, 39e, 39f  40a, 40b |
| **6** | **Basic, derived and intuitive strategies for division.**  Mentally solves a range of division problems attending to the multiplicative structure using strategies such as fact families and building up from known facts. | 41a, 41b, 41c, 41d  42a, 42b, 42c, 42d, 42e, 42f  43a, 43b |
| **7** | **Extending and applying multiplication and division.**  Solves a range of multiplication and division problems (including multi-digit numbers) in practical contexts using multiplicative thinking. | 44  45a, 45b  46a, 46b |

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| Section E: Time | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  No apparent awareness of time, its descriptive language and features of clock-faces. | N/A |
| **1** | **Awareness of time, its descriptive language, and some features of clock-faces.**  Can describe at least one feature and one purpose of clocks. | 47a, 47b, 47c, 47d, 47e, 47f, 47g |
| **2** | **Knowing some clock times, some days of week and months of year, and relating key events (personal, community) to these.**  Knows some clock times, some days of week and months of year, and can relate key events to these. | 48a |
| **3** | **Knowing clock times to half-hour, all days of week and months of year (including order).**  Knows clock times to half-hour, all days of week and months of year (including order). | 48b  49a, 49b, 49c, 49d |
| **4** | **Facility with clocks and calendars.**  Can read analogue clock times to nearest five minutes and has good working facility with calendars. | 48c  50a, 50b, 50c, 50d, 50e |
| **5** | **Extending and applying knowledge, skills and concepts with time.**  Can solve a range of problems involving duration, and digital and analogue time to the nearest minute. | 51a, 51b  52  53a, 53b, 53c, 53d |

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| Section F: Length measurement framework | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  No apparent awareness of the attribute of length and its descriptive language. | N/A |
| **1** | **Awareness of the attribute of mass and use of descriptive language.**  Awareness of the attribute of length and its descriptive language. | 54d |
| **2** | **Comparing, ordering, & matching with the attribute of length.**  Compares, orders, and matches objects by length. | 54a, 54b, 54c |
| **3** | **Quantifying length** **accurately, using units and attending to measurement principles.**  Uses uniform units appropriately, assigning number and unit to the measure. | 55a, 55b |
| **4** | **Choosing and using standard units for estimating and measuring mass, with accuracy.**  Uses standard units for estimating and measuring length, with accuracy. | 56a, 56b |
| **5** | **Applying knowledge, skills and concepts of length.**  Can solve a range of problems involving key concepts of length. | 57a, 57b, 57c |

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| Section G: Mass Measurement | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  No apparent awareness of the attribute of mass and its descriptive language. |  |
| **1** | **Awareness of the attribute of mass and use of descriptive language.**  Awareness of the attribute of mass and its descriptive language. | 58a, 58b, 58c, 58d |
| **2** | **Comparing, ordering, & matching with the attribute of mass.**  Compares, orders, and matches objects by mass. | 58e, 58f, 58g |
| **3** | **Quantifying mass accurately, using units and attending to measurement principles.**  Uses uniform units appropriately, assigning number and unit to the measure. | 59a, 59b, 59c |
| **4** | **Choosing and using standard units for estimating and measuring mass, with accuracy.**  Uses standard units for estimating and measuring mass, with accuracy. | 60a, 60b, 60c  61 |
| **5** | **Applying knowledge, skills and concepts of mass.**  Can solve a range of problems involving key concepts of mass. | 62a, 62b, 62c, 62d, 62e |

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| Section H: Properties of shape | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to recognise and match simple shapes. | N/A |
| **1** | **Holistic recognition of shape.**  Can recognise resemblances and match some simple shapes, using standard "prototypes". | 63a, 63b, 63c |
| **2** | **Classification of shapes, attending to visual features.**  Can sort and compare shapes, using some geometrical language to describe features. | 63a, 63b, 63c ,63d |
| **3** | **Identification of "classes of shapes" by some properties.**  Uses properties of shapes to classify shapes into classes, using appropriate language. | 64a, 64b, 64c |
| **4** | **Definition of shapes using properties.**  Uses standard units for estimating and measuring mass, with accuracy. | 64a, 64b, 64c |

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| Section I: Visualisation | | |
| **GP** | **Description** | **Questions answered correctly for GP to be assigned (including preferred strategies)** |
| **0** | **Not apparent.**  Not yet able to visualise simple shapes. |  |
| **1** | **Static, pictorial images formed in conjunction with models or manipulatives.**  Able to recognise static images in embedded situations. | 65a |
| **2** | **Re-orientation of shapes mentally.**  Can visualise the effect of simple flipping, sliding and turning of shapes. | 65b  66a, 66b, 66c  67a, 67b  68a, 68b  69a, 69b |
| **3** | **Dynamic imagery.**  Uses dynamic imagery to visualise manipulation of shapes by transforming and rearranging. | 67b  68a, 68b  69a, 69b  70 |
| **4** | **Extending and applying visualisation and orientation.**  Can combine a range of visualisation strategies in increasingly complex situations. | 71a, 71b, 71c  72 |