

OCR Entry Level Certificate in Mathematics R448 teachers' handbook

Version 2 July 2010



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1. Introduction

1.1 What is the purpose of this handbook?

OCR's Mathematics Entry Level qualification is being redesigned for first teaching in September 2010. It will sit with the new GCSEs in Mathematics, enabling us to offer a coherent package for you and your learners.

OCR's Entry Level Certificate in Mathematics offers students the opportunity to build their confidence in using mathematics, applying mathematics to relevant, realistic situations, and using their mathematics knowledge to solve problems.

OCR offers a range of support materials developed following extensive research and consultation with teachers. We've designed them to save you time when preparing for the new specification and to support you while teaching it.

It is important to make the point that this Teacher Handbook plays a supporting role to the specification itself. The Entry Level Certificate in Mathematics specification is the document on which assessment is based; it specifies what content and skills need to be covered. The Teacher Handbook should be read in conjunction with the specification.

1.2 Overview of OCR's Entry Level Certificate in Mathematics

The assessment is made up of two tests and two tasks. The assessment is out of 100 marks in total, with three levels of award available: Entry 1, Entry 2, and Entry 3. At any one time, two versions of each paper will be available to provide re-sit opportunities. Papers can be re-used to provide further re-take opportunities. However, an identical test must not be re-used within a two week period, although the alternative version may be used in that period (we do not necessarily recommend this).

Students may also be issued with a Mathematics Progress Profile, for which teachers can award certificates as candidates progress through the course.

Assessment materials and support materials can be downloaded from OCR Interchange free of charge.

The course is designed to be taken over 1 year but is flexible, so can be taken over a longer or shorter period if required.

Entry Level Mathematics (R448)

Assessed Written Tests	<p>A Preliminary Written test (R448/W1) and a Final Written test (R448/W2). Each is out of 30 marks, and can be taken in lesson time, lasting approximately 40 minutes. All tests are teacher marked and moderated by OCR.</p> <p>Note: Content for the course is split so that W1 may be taken partway through the course.</p>
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Assessed Tasks	<p>An Aural task (R448/A), and a Practical task (R448/P). Each is out of 20 marks; the Aural task can be administered by the teacher in groups or on a one-to-one basis. Both tasks are teacher marked and moderated by OCR.</p> <p>Note: Content for the course is split so that the Aural task may be taken partway through the course.</p>
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Mathematics Progress Profile
(Optional and does not count
towards the final grade)

Each student receives a Mathematics Progress Profile. The course content has been split into 6 stages, so that teachers and candidates can progress through the course in manageable steps using the Progress Profile. Progress award certificates can be awarded by the teacher at the completion of stages to provide a sense of achievement for the candidate, and to motivate candidates for the duration of the course.

2. Curriculum guidance

The Entry Level Certificate in Mathematics is designed for those candidates whose needs are not fully catered for by a GCSE examination in Mathematics. Candidates who successfully complete Entry Level Certificate in Mathematics could progress to GCSE.

The qualification is flexible and can for example be used as a one-year course in Y9, Y10 or Y11 or for adult returners; it can also be used as a two-year course in Years 9 and 10 or Years 10 and 11. Foundation Tier GCSE students who are targeting the lower grades could benefit from taking the Entry Level Certificate in Mathematics simultaneously.

If a centre follows a two-year programme, care must be taken in the first year with choosing the versions of the tasks and tests. At any one time two versions are available, but only one of those versions can be used in the following year. This is clearly indicated on the front cover of the tests and tasks.

The centres have considerable freedom in how to organise the course. The assessment, consisting of two tests and two tasks, is 100 % centre-marked; this means that students can benefit from immediate feedback from their teachers. Tests and tasks can be taken at times convenient to the centre and one task (**A**) and one test (**W1**) are designed to enable centres to take these earlier in the course.

The following table shows one possible route through the course. Using this route, centres would first cover the contents of Entry 1 Preliminary, then Entry 2 Preliminary, followed by Entry 3 Preliminary; at the end of each of these three stages a certificate may be awarded. This will then be followed by taking The Preliminary Written test **W1** and the Aural task **A**. Students will then continue with Entry 1 Final, Entry 2 Final and Entry 3 Final respectively; each again followed by the award of a certificate. Finally the candidates will take the Final Written test **W2** and the Practical task **P**. Any of the tasks and papers can be re-taken.

	Specification content	Certificate	
Stage 1	Entry 1 Preliminary	Bronze A	} This covers the shaded contents in the specification.
Stage 2	Entry 2 Preliminary	Silver A	
Stage 3	Entry 3 Preliminary	Gold A	
Assessment	W1 and A		
Stage 4	Entry 1 Final	Bronze B	} This covers the remainder of the specification.
Stage 5	Entry 2 Final	Silver B	
Stage 6	Entry 3 Final	Gold B	
Assessment	W2 and P		

All results of the tests and tasks for each student must be recorded on an Individual Assessment Form, which can be downloaded from Interchange. This form will need to be attached to the tests and tasks that are required by the moderator.

Centres may also use the Mathematics Progress File; this can be downloaded from our website. It has the objectives in the first column, references to the book in the middle column and space to write comments in the last column. The students could keep the profile themselves and record that they have completed the learning objective on a particular date. The teacher could write notes too of course and when all learning objectives have been met the teacher can sign the Mathematics Progress File and award the appropriate certificate.

On the following pages we reference the objectives of the specified content to the textbook *Entry Level Mathematics* by Seager, Watson and West (Hodder Education, ISBN 0-340-80163-8), the worksheets that are offered with this text and other resources. The specified content is split into six parts, which allows the course to be split into manageable stages. We provide Progress Profiles for teachers and students to keep track of their progress. These follow the same format as the resources on the following pages and can be downloaded from our website. Teachers can award a certificate when each stage is completed, these certificates can be downloaded from Interchange.

Resources – Entry 1 Preliminary

Reference	Objective	Page reference	Further resources
D1	Tally objects using recognised notation	49 Tallies 1	Worksheet 4/3
D3	Sort and classify objects using everyday language	12 Sorting 1 45 Sorting 2	Worksheet P/4 Worksheet 4/1 Resource R14 Sorting words
N1	Write, order and verbalise whole numbers up to 10	4-5 Counting 1	Worksheet P/1 Resource R7 Counting cards 1 to 10 Resource R11 Word cards 1 to 10
N3	Understand vocabulary associated with the comparison of number such as: 'how many', 'the same as', 'more', 'less', 'less than', 'greater than', 'fewer'.	50-51 Comparing	Resource R6 Digit cards Resource R19 Sums Practice (8)
N4	Use apparatus to add and subtract numbers to 10	10 Adding 1 15 Subtracting 1	Resource G15 Adding (1) dotty game Resource G16 Subtracting (1) dotty game Resource G24 Four in a line
N5	Understand and use the vocabulary of estimation, giving sensible estimates of a number of objects that can be checked by counting (not more than 10 objects)	4-5 Counting 1	Worksheet P/1 Resource R7 Counting cards 1 to 10 Resource R11 Word cards 1 to 10
N12	Solve problems involving addition and subtraction involving whole numbers less than 10	39 Add and subtract 3 – Mixed problems	

N15	Find the missing whole number, represented by a box or other symbol and not exceeding 10 in problems of the form $4 + \square = 8$ using + and –	19	Missing numbers 1	Resource R3 Opposites activity Resource R3 Missing numbers activity Resource R18 Sums Practice (4)
N16	Recognise and continue repeating patterns, counting the number of objects in each repeat	20 34	Repeating patterns 1 Number patterns 1 (repeating patterns only)	Worksheet 1/2, 1/3 Worksheet 2/4 section A
N21	Recognise British coins in everyday use	16-17	Money 1	Resource G2 Snap cards Resource R1 Money game (1) activity
S1	Visually compare lengths, understand and use terms such as ‘longer than’, ‘longest’, ‘shortest’, ‘shorter than’	22-23	Comparing lengths	Resource R4 Comparing lengths activity
S7	Recognise and continue simple repeating spatial patterns	36-37	Repeating patterns 2	Worksheet 3/3, 3/4 Resource R9, R10 Shape cards
S17	Use language associated with time eg morning, afternoon, evening, night	68	Times of the day	Resource R16 Time line

Notes:

Page references are for Entry Level Mathematics by Seager, Watson and West (Hodder Education)
Further resource references are to support material available on the Entry Level Mathematics website.

Resources – Entry 1 Final

Reference	Objective	Page reference	Further resources
N2	Use the terms first, second, third, fourth, fifth including sequencing events	28-29 Position 1	Resource R11 Position (1) word cards
N6	Within the range 0 to 10, give a number that is 1 more or less than a given number	20 Add and subtract 1	Resource R15 Number line
N13	Give a number lying between two other numbers between 1 and 10	4-5 Counting 1	Resource R7 Counting cards 1 to 10 Resource R11 Word cards 1 to 10
S2	Understand and use the terms 'behind', 'in front of', 'above', 'below', 'right', 'left', 'next to'	54-55 Left and right 72-73 Position 2	Resource R13 Position (2) word cards
S3	Draw a simple plane shape on a square grid	14 Drawing shapes 1 21 Ted's tiles 31 Drawing shapes 2	Worksheet P/6
S4	Know the terms circle, square, rectangle, triangle, star	24-25 Shapes 2	Resource R9, R10 Shape cards Resource R12 Shape word cards Resource R3 Describing shapes activity
S11	Sort and classify shapes using everyday language eg flat, curved, rounded, straight, sides, corners	8-9 Shapes 1 152- Sorting 3 153	Worksheet P/3 Resource R3 Describing shapes game Resource R9, R10 Shape cards Worksheets 14/5, 14/6 Resource R14 Sorting (3) word cards
S12	Compare weights of common objects including using terms such as 'heavier than', 'lighter than', 'heaviest', 'lightest'	56-57 Comparing weights	

Notes:

Page references are for Entry Level Mathematics by Seager, Watson and West (Hodder Education)
Further resource references are to support material available on the Entry Level Mathematics website.

Resources – Entry 2 Preliminary

Reference	Objective	Page reference	Further resources
D1	Understand and complete a tally chart including numerical frequency	123 Tallies 2 143 Frequency tables	Worksheets 11/2, 11/3 Worksheet 13/3
D2	Construct a bar graph, stick graph or pictograph from given data	100- Bar charts 1 101 128- Pictograms 1 129 138 Pictograms 2 147 Bar charts 2	Worksheet 13/1 Worksheet 14/1
D4	Extract information from printed lists with a maximum of two columns or two rows	42-43 Timetables 86-87 Using tables 1	
N3	Understand vocabulary associated with calculating with number such as: add, subtract, plus, minus, take away, total, sum, difference	38-39 Add and subtract 3	Resource G30, G31 Question and answer cards Resource R19 Sums Practice 7 Resource R14 Operation word cards
N4	Recall addition and subtraction facts up to 10		Resource R18 Sums Practice (1), (2), (3) Resource R31 Test yourself (1)
N5	Mentally add several single-digit numbers	30 Adding 2	Resource G16 Dotty game Adding (2) Resource G25 Four in a line Adding (2) Resource R19 Sums Practice 6
N9	Add or subtract two whole numbers on a calculator	66-67 Using a calculator 1	Resource R1 Sums race activity
N10	Write and order numbers up to 100; enter and interpret numbers on a calculator	13 Counting 2 32-33 Making tens 74-76 Ordering numbers 1	Worksheet P/5 Resource R7 Counting cards 1 to 20 Resource R11 Word cards 1 to 20 Worksheets 2/2, 2/3 Worksheet 6/1 Resource R15 Number line 0 to 100 Resource R7, R8 Counting cards

N15	Find the missing whole number, represented by a box or other symbol in problems of the form $10 + \square = 14$, $\square - 3 = 5$ using + and -, not exceeding 20	107	Missing numbers 2	Resource R3 Opposites activity Resource R3 Missing numbers activity
N16	Recognise and continue number patterns	34	Number patterns 1	Worksheet 2/4 section B Resource G17, G18 Dotty games Number patterns (1)
N17	Complete a sequence in 2s, 5s, 10s up to 30	114	Number patterns 2	Worksheet 10/1
N19	Recognise half, quarter and three quarters in words and numbers; represent these fractions in diagrams. Fractions may be given in words or digits	70-71 84 96 156-157	Halves 1 Is it half Halves and quarters 1 Halves and quarters 2	Worksheet 8/5 Resource G5 Snap cards Resource G27 Four in a line game
N20	Recognise that two halves or four quarters make one whole and that two quarters and one half are equivalent	70-71 96	Halves 1 Halves and quarters 1	Resource G5 Snap cards Resource G27 Four in a line game
N21	Select coins equivalent to an amount of money up to 50p; give change from 50p	40-41 52-53 80-81	Money 2 Change 1 Change 2	Resource R31 Test yourself (3) Resource R1 Money game (2) activity
N22	Use £ and p notation	115	Money 3	
S1	Use a ruler to draw and measure lines in cm (to the nearest cm) and mm (to the nearest 5mm)	92-93 120 145	Lines 1 Lines 2 Lines 4	Worksheet 8/3 Worksheet 13/5
S3	Know the terms square and rectangle and know and use the simple properties of these shapes; draw a simple plane shape using pencil and ruler only	31 103 160	Drawing shapes 2 Drawing shapes 3 Shapes 4	Resource G29 Four in a line game
S4	Know the terms pentagon, octagon, side, edge, corner	65 169	Shapes 3 Pentagons	Resource R9, R10 Shape cards Resource R12 Shape word cards Resource R3 Describing shapes game

S5	Identify and draw single vertical lines of symmetry; understand the terms 'symmetry', 'symmetrical'	104-105	Mirrors 1	Worksheet 9/1
S8	Recognise right angles and angles smaller or larger than a right angle	64 94-95	Right angles 1 Right angles 2	Worksheet 8/4
S14	Read and mark a scale or dial whose divisions represent 1 unit which are labelled in 1s or 2s (numbers up to 100)	18	Reading scales 1	Worksheet 1/1 Resource R15 Number line
S15	Read scales showing temperatures above zero and compare positive integer temperatures (scales graduated and labelled in 1s or 2s)	108-109 132-133	Temperatures 1 Temperatures 2	
S17	Understand and use am/pm method of stating time	69	Times of the day	Resource R16 Time line

Notes:

Page references are for Entry Level Mathematics by Seager, Watson and West (Hodder Education)
Further resource references are to support material available on the Entry Level Mathematics website.

Resources – Entry 2 Final

Reference	Objective	Page reference	Further resources
N1	Verbalise numbers up to 100; know the value of each digit in a 2-digit number	63 Writing numbers 1 79 Writing numbers 2	Resource G32, G33 Question and answer cards
N2	Count on in twos, not exceeding 50		Resource G17 Dotty games Number patterns (1)
N6	Within the range 1 to 20, give a number that is 1 or 10 more or less than a given number	25 Add and subtract 2	Resource R15 Number line 0 to 20 Resource R19 Sums practice 5
N7	Recognise the odd and even numbers from 1 to 50	78-79 Odd and even	Resource R6 Digit cards Resource G26 Four in a line game
N12	Choose the appropriate operation (– or +) to solve simple problems	39 Add and subtract 3 – Mixed problems 98-99 Subtraction problems	Resource G21 Dotty game Add and subtract
N13	Give one or more numbers lying between two other numbers up to 50		
N18	Count back in 3s and 4s	82 Subtracting 2	Resource R15 Number line 0 to 100
S2	Measure lengths up to 100 mm and measure out lengths in metres using a metre rule or equivalent	97 Measuring metres 134 Lines 3 145 Lines 4	Worksheet 8/6 Resource R4 Measuring metres activity Worksheet 12/2 Worksheet 13/5
S7	Recognise and continue simple spatial patterns	60-61 Repeating patterns 3	Worksheet 5/3
S11	Identify pictures of three-dimensional objects	44 Solid shapes 1	Resource R13 Solid shape word cards Resource R3 Describing shapes game Resource G4 Snap cards
S12	Judge whether an object weighs more or less than a kilogram; weigh an object less than a kilogram and read the scales commonly used on kitchen scales (scales with which the candidate is familiar)	168- 169 Weighing	Resource R16 Number lines 10s, 100s

S13	Recognise the following abbreviations for units: cm, mm, m, kg, l	35	Measuring units 1	Worksheets 3/1, 3/2 Resource R12 Measuring units words Worksheets 5/1, 5/2
		59	Measuring units 2	
S16	Read and mark a scale or dial whose divisions represent 1 unit or use a number line where the divisions represent 1 unit (numbers up to 10) with at least two divisions marked	46-48	Reading scales 2	Worksheet 4/2
S18	Read digital and analogue clocks (in hours and in five minute intervals)	11	Clocks 1	Resource G8 Snap cards
		37	Digital clocks	
		110-	Clocks 2	
		111		
		122	Clocks 3	
		142	Clocks 4	
		164-	Clocks 5	
165				
				Resource G9, G10 Snap cards

Notes:

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Further resource references are to support material available on the Entry Level Mathematics website.

Resources – Entry 3 Preliminary

Reference	Objective	Page reference	Further resources
D2	Interpret frequency diagrams or pie charts	178- Stick graphs 179 192- Pie charts 193 216- Using diagrams 217	
D4	Extract information from printed lists with more than 2 columns or rows	140- Using tables 2 141	Worksheet 13/2
N8	Add and subtract sums of money, using a calculator where necessary; solve problems involving addition and subtraction of numbers up to 2 digits	130- Sums with money 131 154- Calculators and money 155	Resource G7 Snap cards
N9	Add, subtract, multiply or divide whole numbers up to 2 digits using a calculator, with or without a context	131 Digit cards 1 183 Digit cards 2 185 Using g and kg 196 Using l and ml 205 Target	Resource R6 Digit cards
N10	Order one digit decimals; add and subtract decimals on a calculator	126- Decimals 127 146 Using a calculator 2 188- Using decimals 189	Worksheet 12/1 Resource G6 Snap cards Resource R15 Decimal number line

N11	Know and use multiplication by 2, 5, 10 up to 10×10 , and use this knowledge in multiplication and division problems	62-63 83 102 106 135 174- 175	Two times table Five times table Ten times table Multiplying Dividing 1 Dividing 2	Resource R32 Test yourself (4) Resource R20 Sums practice (10) Resource R20 Sums practice (12) Resource G19 Adding (4) doty game Resource R21 Sums practice (14) Resource G20 Multiplying doty game Resource G28 Four in a line game Resource R32 Test yourself (5) Resource R21 Sums practice (15) Resource R22 Sums practice (17) Worksheet 12/3 Resource R33 Test yourself (7) Resource R22 Sums practice (18) Resource G22 Dividing (2) doty game Resource R33 Test yourself (8) Resource R23 Sums practice (22), (24) Resource G36, G37 Question and answer cards
N14	Perform simple calculations where the units of the quantities are whole numbers of millions or thousands	139	Millions	
N16	Explain how to find the next number in a simple number pattern	151	Number patterns 3	Worksheet 14/4
N17	Complete sequences of integers where the common difference is 10 or less	151	Number patterns 3	Worksheet 14/4
N23	Convert from pence to pounds and vice versa; order sums of money	112- 113 115	Ordering money Money 3	
S5	Identify and draw shapes which have horizontal and/or vertical lines of symmetry	104- 105 144	Mirrors 1 Mirrors 3	Worksheet 9/1 Worksheet 13/4
S6	Understand the terms reflection and reflection symmetry; recognise simple plane shapes, patterns or pictures that have reflection symmetry	104- 105 124- 125	Mirrors 1 Mirrors 2	Worksheet 9/1 Worksheet 11/4

S10	Understand the term 'clockwise' and 'anticlockwise' and the idea of quarter, half and three quarters of a turn	148-149	Turning	Worksheet 14/2
S20	Know: 60 seconds = 1 minute, 60 minutes = 1 hour, 24 hours = 1 day	157	Time facts 1	Resource G13 Snap cards
S21	Know and use basic calendar facts (e.g. days in a week, fortnight, month, months in a year) including common abbreviations e.g. Mon, Jan; use a calendar to solve problems	6-7 26-27 157 172 195	Days and months Dates Time facts 1 Time facts 2 Time facts 3	Worksheet P/2 Resource G1 Snap cards Worksheet 2/1 Resource G3 Snap cards Resource G13 Snap cards

Notes:

Page references are for Entry Level Mathematics by Seager, Watson and West (Hodder Education)
Further resource references are to support material available on the Entry Level Mathematics website.

Resources – Entry 3 Final

Reference	Objective	Page reference	Further resources
D5	Read and use simple travel timetables and other common two-way tables	140-141	Using tables 2 Worksheet 13/2
D6	Extract simple information from a calendar	170-172 199	The calendar 1 The calendar 2 Worksheet 16/1
N1	Write, order and verbalise whole numbers up to 1000	77 103 166-167	Making hundreds Writing numbers 3 Ordering numbers 2 Worksheet 6/2 Resource G34, G35 Question and answer cards Resource R24 Sums practice (25) Resource R6 Digit cards
N2	Count on in tens from any two-digit number not exceeding 100 and count back from any two-digit number down to zero	114	Number patterns 2
N3	Understand vocabulary associated with number such as multiply, divide, times, share, double, twice, halve	174-175	Dividing 2 Resource R33 Test yourself (8) Resource R23 Sums practice (22), (24)
N4	Recall addition and subtraction facts up to 20	107	Missing numbers 2 Resource R31 Test yourself (2)
N5	Add or subtract two whole numbers (up to three digits) without a calculator	85 118-119 162	Borrowing Add and subtract 4 Add and subtract 5 Worksheet 7/1 Worksheet 11/1 Resource R21 Sums practice (16) Resource R32 Test yourself (6) Worksheet 15/1 Resource R23 Sums practice (21)
N6	Add a single digit number to a number less than 1000; add multiples of ten	58 84	Adding 3 Adding 4 Resource R20 Sums practice (9) Resource R22 Sums practice (20) Resource R16 Tens number line Resource G19 Dotty game Resource R21 Sums practice (13)

N7	Multiply a whole number by 10; recognise when numbers can be divided by 10	198 206	Multiplying by 10 Number patterns 4	Resource R25 Sums practice (29)
N12	Choose appropriate operations (\times or \div) to solve problems	177 203 218- 219	Times and divide The day trip Getting paid	Resource G21 Times and divide doty game Resource R14 Word cards
N15	Find the missing whole number, represented by a box or other symbol in problems of the form $40 \div \square = 20$, $\square * 3 = 15$, using all four operations	174- 175	Dividing 2	Resource R3 Opposites and Missing numbers activities Resource R24 Sums practice (26) Resource R25 Sums practice (32)
N19	Calculate halves and quarters of quantities where the answer is an integer. Use halves and quarters in appropriate contexts	150 163 194 207	Halves 2 Quarters 1 Quarters 2 Halves and quarters 3	Worksheet 14/3 Resource G23 Doty game Halves 2 Resource R22 Sums practice (19) Resource R23 Sums practice (23) Resource G14 Snap cards Resource R34 Test yourself (11) Resource R24, 25 Sums practice (28), (31)
N21	Select coins equivalent to an amount of money up to £5; give change from £5	121 161 176 184	Change 3 Money 4 Change 4 Change 5	Resource R1 Money game (2) activity Resource R5 Money cards Resource R1 Money game (3) activity Resource R34 Test yourself (10)
N22	Solve problems involving multiplication or division of money by a whole number no greater than 10	204- 205 218- 219	Dog rescue Getting paid	
S4	Know the terms cube, cuboid, pyramid, sphere, cone, cylinder, point, face, curved face	88-89	Solid shapes 2	Worksheet 8/1 Resource R13 Solid shape word cards

S7	Explain how to find/draw the next shape in a simple spatial pattern	116- 117 173	Describing patterns Shapes 5	
S8	Understand the terms 'right angle' and 'parallel to'	158- 159	Lines and angles	
S9	Understand and use the four points of the compass	136- 137	Compass directions	Resource R4 The map activity
S11	Make and describe shapes and patterns; e.g. explore the shapes that can be made with four cubes	73 173	Position 2 challenge Shapes 5	Resource R3 Shapes with cubes
S13	Recognise and use the following abbreviations: mm, cm, m, km, g, kg, ml, l (in formats commonly occurring on packages, tins etc)	212- 213	Using units	Resource R12 Units words cards
S14	Read and mark a scale or dial whose divisions are labelled and represent 2, 5 or 10 units	90-91 190- 191	Reading scales 3 Reading scales 4	Worksheet 8/2 Worksheet 18/1
S15	Read scales showing temperatures above and below zero and compare temperatures (scales graduated in units and labelled in at least 10s)	200- 202	Temperatures 3	Resource R15 Negative numbers line
S19	Work out starting and finishing times and intervals, up to one hour, for times given in multiples of 10 minutes	180- 181 210- 211	Lengths of time 1 Lengths of time 2	Worksheet 17/1 Resource R16 Time line Resource R33 Test yourself (9) Worksheets 20/3, 20/4 Resource R34 test yourself (12)

Notes:

Page references are for Entry Level Mathematics by Seager, Watson and West (Hodder Education)
Further resource references are to support material available on the Entry Level Mathematics website.

3. Subject specific guidance

3.1 Assessment

1. The assessment is designed to provide accessible targets which can be attempted when the student is ready. The teacher marks the assessments in order to give the student immediate feedback about their progress. All tests and tasks are carried out under controlled conditions.
2. There are two versions of each test and each task available at any one time. One set of tests and tasks will be replaced by OCR each year. Candidates entering for certification in 2011 may take tests and tasks for either or both of the Version 1 tests and tasks or the Version 2 tests and tasks. Candidates entering for certification in 2012 may take tests and tasks for either or both of the Version 2 tests and tasks or the Version 3 tests and tasks.
3. A candidate may re-sit a test or task by doing the alternative version at any time. If a candidate re-sits an identical version there must be at least a two-week period before the second attempt is made. When a test or task is re-taken the better result will count towards the final grade.
4. The tests and tasks may be supervised by teachers in normal lesson time and will be taken at times convenient to the centre.
5. There is no set time limit for completing the tests and tasks but it is expected that normal lesson time will be sufficient for most candidates. If they wish to continue with the test or task in the next lesson they may be allowed to do so but the test or task must be collected in at the end of the lesson and kept securely.
6. The tests and tasks will be marked by the teacher according to the mark scheme provided by OCR. The tests and tasks must be marked as soon as possible after they have been completed by the candidate. The total marks must be recorded on the front covers of the scripts and on the Individual Assessment Form. The scripts must be kept securely until required by the External Moderator. All the scripts and the Individual Assessment Form from a candidate must be fastened together (preferably with a treasury tag) and be despatched to the External Moderator if requested.
7. Teachers may answer candidates' questions regarding the requirements within a particular question but must not provide help with the mathematics being tested.
8. Where appropriate, candidates may find it helpful to have access to materials such as counters or cubes or other forms of everyday apparatus. Real objects, which look like those illustrated in the tests or tasks, may be provided. For questions involving

symmetry, candidates may be given mirrors and tracings of the shapes on the question paper.

9. **Written tests (W1 and W2).** Candidates answer on the question papers. Calculators and geometrical instruments may be used.
10. **Aural task (A).** [The teacher's copy has the code **AT**.] This may be administered on a one-to-one basis or to a group of candidates as appropriate. Calculators, rulers and other measuring devices must **not** be used. Rough working is allowed when doing this task. The task is in two sections. Both sections may be conducted in one session or they may be conducted on different occasions. The stated time allocation is intended as a guide, not a restriction.
11. **Practical task (P).** This task assesses Using and Applying Mathematics. It may be conducted on a one-to-one basis or with a group of candidates, as appropriate. The task can be split into separate questions and given to the candidate at different times, if appropriate. Candidates may have the questions read to them and the tasks explained. However, it is expected that candidates will respond to the tasks independently. They must be given the opportunity to make their own decisions about which materials and apparatus to use.
12. **Special Arrangements.** Please see Section 6 of the specification.

3.2 Submission of marks

The following section should be read with OCR's "**Guidance for administering internal assessment 2009/10**", which can be found on our website.

Internal Standardisation Where more than one teacher in the Centre has marked the same test or task, the Centre must standardise the marking in order to ensure that different candidates' work is marked to the same standard. Teachers are reminded that all marking and internal moderation must be completed in good time before the submission of marks to OCR and the Moderator. All relevant materials must be received by the Moderator **no later than 15 May**. The marks must be received by OCR **no later than 15 May**.

Teachers are urged to submit their marks and work before the deadline, if at all possible.

Submission of Marks OCR will send Centres internal assessment mark sheets (MS1) for the submission of marks, along with instructions for completing and returning the mark sheets. Marks may also be submitted electronically by EDI or on Interchange. The dates for despatch of MS1 mark sheets and for submission of marks are given on the Key Dates poster for each session. Centres must ensure that they keep a copy of their marks.

Moderation Moderator address labels will be sent to Centres before the mark submission date. Where the Centre has six or fewer candidates entered, all the candidates' work should be sent to the Moderator with a copy of the internal assessment mark sheet(s) (MS1). If the centre has more than six candidates, the Centre must send the MS1 to OCR, a copy to the Moderator and retain a copy. OCR will then request the work of six candidates from the centre. (If your Centre has six or less candidates you may still get this request, but you have sent the work already).

For each candidate an Assessment Form must be filled in and each candidate's tests and tasks must be securely attached to the Candidate's Assessment Form. Assessment Forms can be downloaded from Interchange. The OCR Centre Authentication Form (CCS160) should be signed by each marker and sent with the sample of work.

The Moderator may request a further sample of work from the Centre. Centres should respond with a minimum of delay.

A report on the outcome of the moderation will be sent to Centres at the time results are issued.

3.3 Exemplar material

The following pages have an example question for each assessment objective in the specification. These may be used in different ways: as examples for inexperienced teachers, as testing material for pupils, as examples for pupils to attach to their Progress Profile, as revision material, the list could go on. It is not a complete teaching resource and cannot be used in place of a text book.

The exemplar material can also be downloaded from the OCR website.

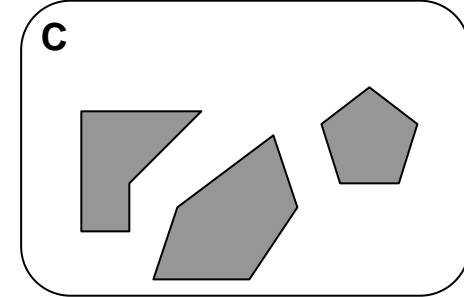
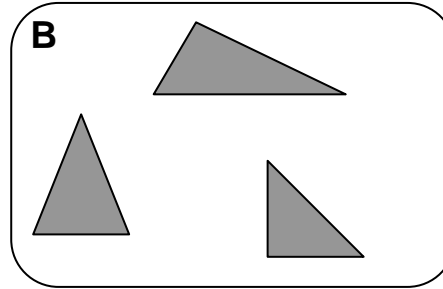
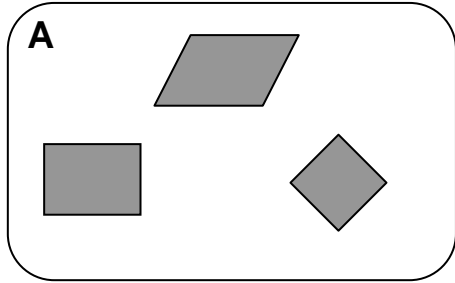
Mathematics Progress Profile – Entry 1 Preliminary

Example questions

Reference	Question
D1	<p>One day Sue kept a record of the number of phone calls ☎ and emails 📧 she got. Here is her record.</p> <p>☎☎📧📧☎☎📧☎☎📧📧☎☎📧📧</p> <p>Phone calls Emails Complete the tally chart for this information.</p>

D3

These objects have been sorted into groups.



(a) Write down a name (or sentence) to describe each group.

A

B

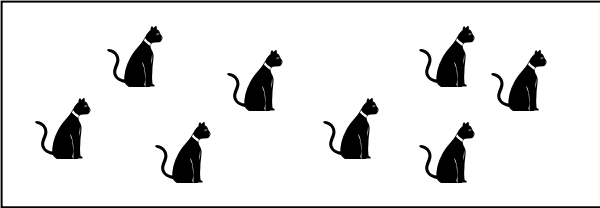
C

(b) Which group will this item go in to?



Group

N1	<p>(a) Read out this number. 8</p> <p>(b) Write in figures the number four.</p> <p>(c) Write these numbers in order, smallest first. 10 3 6</p>
N3	<p>(a) Use one of these to complete each sentence.</p> <p style="text-align: center;"> more than less than the same as </p> <p>2 is five.</p> <p>4 is four.</p> <p>(b) Fill in the missing number.</p> <p>8 is 5 greater than</p>

<p>N4</p>	<p>Work out each answer. You can use counters to help.</p> <p>(a) $6 + 3 = \dots\dots\dots$</p> <p>(b) $8 - 6 = \dots\dots\dots$</p> <p>(c) $7 - 2 = \dots\dots\dots$</p> <p>(d) $1 + 9 = \dots\dots\dots$</p>
<p>N5</p>	<p>About how many cats are in the picture? Tick the best answer.</p> <div style="display: flex; justify-content: space-around; margin: 10px 0;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px 20px;">about 2</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px 20px;">about 5</div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px 20px;">about 10</div> </div> <div style="border: 1px solid black; width: 250px; height: 100px; margin: 10px auto; text-align: center;">  </div>
<p>N12</p>	<p>(a) Amin has 8 pens. He loses 2. How many does he have left? $\dots\dots\dots$</p> <p>(b) Anna buys a book for £5 and a CD for £4. How much do they cost altogether? $\dots\dots\dots$</p>

N15

Fill in the missing numbers.

$$4 + \square = 6$$

$$\square - 1 = 4$$

N16

(a) Write down the next three numbers in this repeating pattern.

7 3 7 7 3 7 7 3 7

(b) This is a repeating pattern.

* ♦ ♦ * * ♦ ♦ ** ♦ ♦ ** ♦ ♦ *

How many objects are there in each repeat?

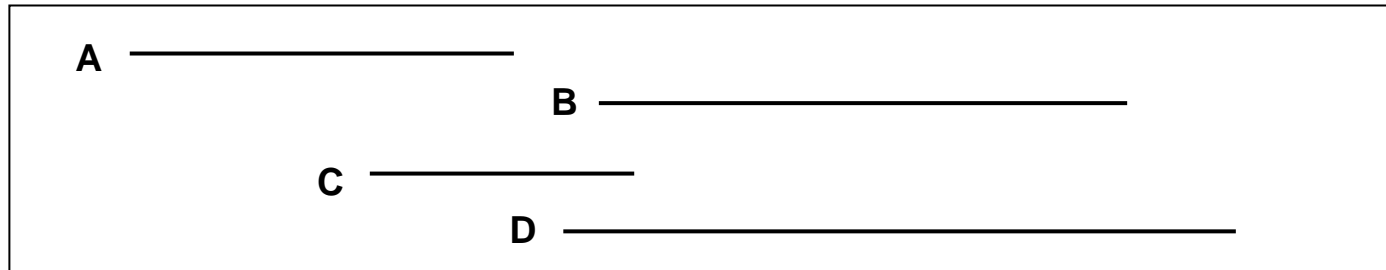
N21



- (a) Put a tick (✓) next to the 20p coin.
- (b) How many of the coins are worth less than 10p?
- (c) Which coins are worth more than 50p?

S1

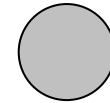
Look at these lines.



- (a) Which line is the shortest?
- (b) Find a line longer than line A.

S4

Write down the name of each shape.



.....

.....

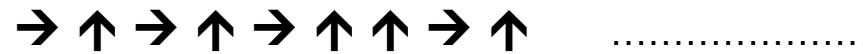
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S8

(a) Is this a repeating pattern?



(b) Draw the next two objects in this repeating pattern.



S17

Put the correct word with each of these sentences.
The first one is done for you.

I go to school. morning

I go home from school.

I go to bed.

I have breakfast.

night	noon	midnight
morning	afternoon	

Mathematics Progress Profile – Entry 1 Final

Example questions

Reference	Question
N2	<p>Here are the days of the week.</p> <p>Monday Tuesday Wednesday Thursday Friday Saturday Sunday</p> <p>(a) Which day is second?</p> <p>(b) Which day is 5th?</p>
N6	<p>(a) Which number is one more than 4?</p> <p>(b) Which number is one less than 8?</p> <p>(c) Which number is one less than 1?</p>

N13

(a) What number comes between 8 and 10?

(b) Complete the missing numbers.

1 2 4 5 7

S2

Some students are sitting in a room.

Front

Anna	Ben	Cora	Dev
------	-----	------	-----

Eve	Freya	George	Hok
-----	-------	--------	-----

Complete the following sentences.

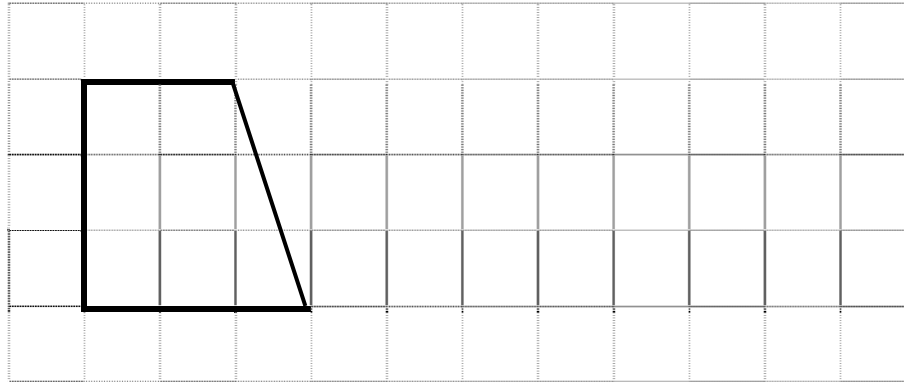
Freya is next to and

Cora is in front of

..... is on the left of Ben.

S3

Copy this shape onto the grid.

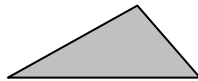


S4

Write down the name of each shape.



.....



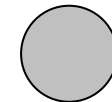
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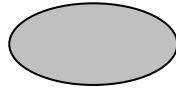
S11

Here are some shapes.

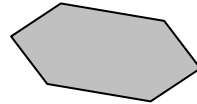
A



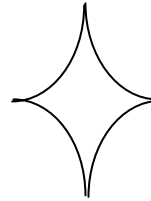
B



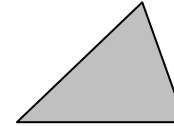
C



D



E



F



(a) Sort the shapes into these two groups.

Shapes with straight sides

.....

Shapes with curved sides

(b) Sort the shapes into these two groups.

Shapes with four or more corners

Shapes with fewer than three corners

S12

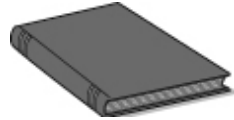
Here are some objects.



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(a) Which is the heaviest?

(b) Which is lighter than the book?

Mathematics Progress Profile – Entry 2 Preliminary

Example questions

Reference	Question															
D1	<p>Nina asked some friends which fruit they liked best. Here are the results.</p> <p>Apple Banana Banana Orange Apple Grapes Banana Apple Orange Apple Banana Orange Grapes Apple Banana Orange Grapes Banana Apple Banana</p> <p>Complete the tally chart for the results.</p> <table border="1"><thead><tr><th>Fruit</th><th>Tally</th><th>Frequency</th></tr></thead><tbody><tr><td>Apple</td><td></td><td></td></tr><tr><td>Banana</td><td></td><td></td></tr><tr><td>Grapes</td><td></td><td></td></tr><tr><td>Orange</td><td></td><td></td></tr></tbody></table>	Fruit	Tally	Frequency	Apple			Banana			Grapes			Orange		
Fruit	Tally	Frequency														
Apple																
Banana																
Grapes																
Orange																


D2


Maya asked her friends to choose their favourite sport.
This table shows her results.

<i>Favourite Sport</i>	<i>Number of people</i>
Cricket	10
Football	25
Hockey	15
Netball	5

Complete the pictogram to show this information.

Favourite sport

Cricket	
Football	
Hockey	
Netball	

Key	
	stands for 5 people

D4

This table shows some films that won Oscars for Best Picture.

Year	Film
2002	Chicago
2003	The Lord of the Rings: The Return of the King
2004	Million Dollar Baby
2005	Crash
2006	The Departed
2007	No Country for Old Men
2008	Slumdog Millionaire

- (a) When did The Departed win?
- (b) Which film won in 2004?
- (c) Which film won in 2002?
- (d) When did Slumdog Millionaire win?

N3

- (a) Work out $8 + 6$
- (b) Work out $14 - 5$
- (c) Work out $20 - 3$
- (d) Work out the sum of 15 and 3.
- (e) Find the total of 9 and 11.
- (f) Find the difference between 10 and 6.

N15

Fill in the missing numbers.

$$14 + \square = 20$$

$$\square + 8 = 15$$

$$\square - 3 = 11$$

$$16 - \square = 6$$

N16

(a) Which of these are number patterns?
Write **yes** or **no** for each.

16 15 14 13 12 11

1 3 5 6 7 9 11

2 5 8 11 14 17

.....

.....

.....

(b) Write down the next number in each of these number patterns.

6 7 8 9

20 18 16 14

N17

Write down the next four numbers in each of these number patterns.

(a) Start at 4. Add 2 every time.

4			
---	--	--	--

(b) Start at 6. Add 10 every time.

6			
---	--	--	--

N19

(a) Draw an arrow to match each fraction in words and figures.

One half

$$\frac{1}{4}$$

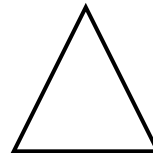
One quarter

$$\frac{3}{4}$$

Three quarters

$$\frac{1}{2}$$

(b) Shade one half of this shape.



N20

Which of these shapes have one half shaded?

Put a tick (✓) under the shapes that have one half shaded.

Put a tick (✗) under the shapes that do not have one half shaded.



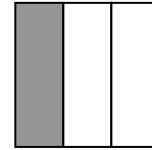
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.....

N21



(a) Which of these coins could be used to make exactly 36p?

(b) Carl buys a stamp for 30p. He pays with a 50p coin.
What change should he get?

(c) Katy buys some sweets for 23p. She pays with a 50p coin.
What change should she get?

N22

Write the amount of money in each box in words and in shorthand.



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.....



.....

S1

(a) Measure this line in centimetres.



..... cm

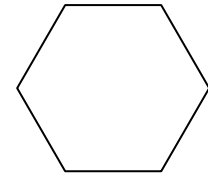
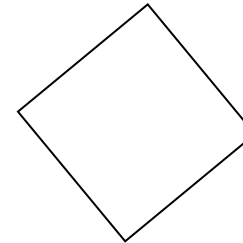
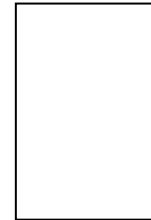
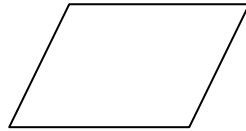
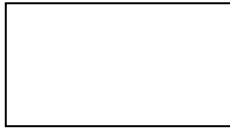
(b) Draw a line 45 millimetres long.

S3

In the picture below there are some squares, some rectangles and some other shapes.

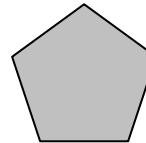
Write a letter **S** in each square.

Write a letter **R** in each rectangle.



S4

(a) Write down the name of this shape.



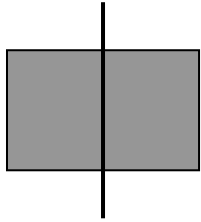
.....

(b) How many sides does an octagon have?

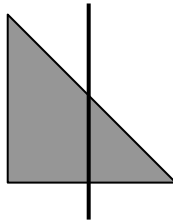
(c) Draw an octagon.

S5

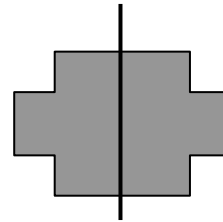
- (a) Which of these lines are lines of symmetry?
Put a tick (✓) under the ones that are lines of symmetry.
Put a tick (✗) under the ones that are not lines of symmetry.



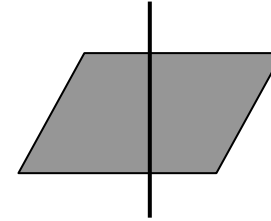
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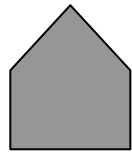


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- (b) Draw the line of symmetry on this shape.

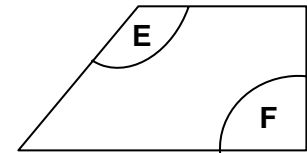
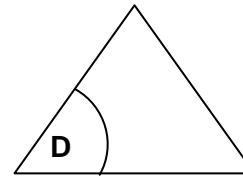
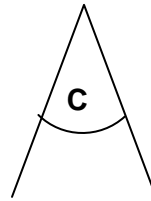
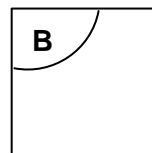
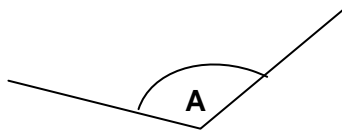


S8

Are these angles

- **smaller than** a right angle
- **the same as** a right angle
- **bigger than** a right angle?

Write **smaller**, **same** or **bigger** under each.



.....

.....

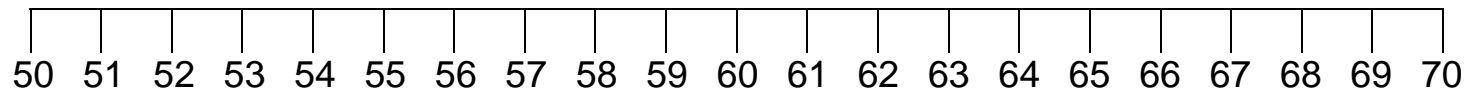
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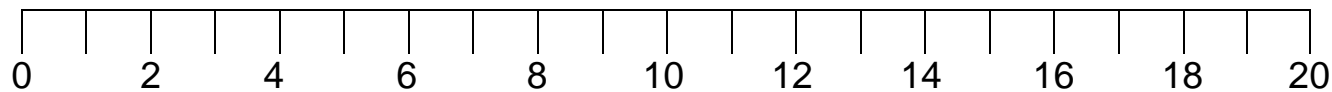
S14

(a) What number does each arrow point to?



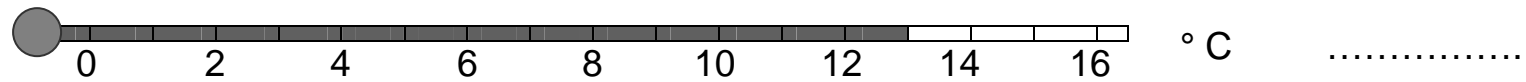
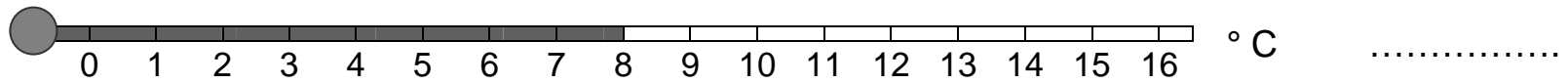
(b) (i) Mark 8 on the scale below.

(ii) Mark 13 on the scale below.



S15

(a) Write down the temperature shown on each thermometer.



(b) Look at these room temperatures.

Bedroom	Lounge	Dining room	Kitchen
16 °C	21 °C	19°C	8 °C

(i) Which room is warmest? (ii) Which room is coldest?

S17

(a) A football match starts at 3 o'clock in the afternoon.

Write this time using am or pm.

(b) Is 11:45 am in the morning or in the evening?

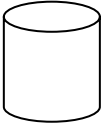
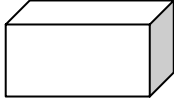
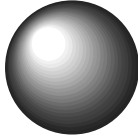
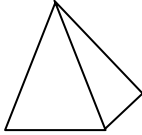
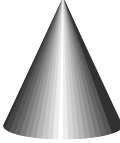
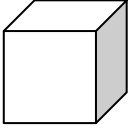
Mathematics Progress Profile – Entry 2 Final

Example questions

Reference	Question
N1	<p>(a) Read out these numbers. 71 16 30</p> <p>(b) How many units are there in sixty five?</p> <p>(c) What is the value of the 4 in the number forty two?</p>
N2	<p>Tim is counting up in twos up to 30.</p> <p>He starts 2, 4, 6, 8, 10.</p> <p>Complete his counting.</p>

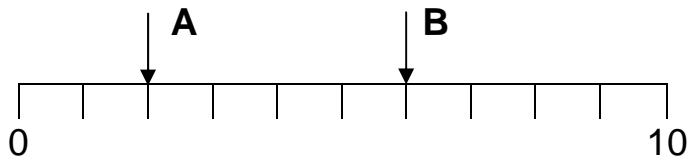
N6	<p>(a) Which number is one more than 15?</p> <p>(b) Which number is one less than 20?</p> <p>(c) Which number is ten more than 4?</p> <p>(d) Which number is ten less than 12?</p>
N7	<p>Write odd under each odd number. Write even under each even number.</p> <p>28 40 17 36 49 25</p> <p>..... </p>
N12	<p>(a) There are 18 people in a swimming pool. Another 7 people get in. How many people are in the pool now?</p> <p>(b) Sara has £35. She spends £12 on a top. How much money does she have left?</p>

N13	<p>(a) Give two numbers that come between 39 and 44.</p> <p>(b) Complete the missing numbers.</p> <p>27 28 31 32 34</p>
N18	<p>Give the first five numbers for each of these.</p> <p>(a) Count backwards in 3s, starting from 36.</p> <p>(b) Count backwards in 4s, starting from 67.</p>
S2	<p><i>You need a metre ruler.</i></p> <p>(a) Measure this line in millimetres.</p> <p style="text-align: right;">..... mm</p> <p>(b) Use a metre rule to measure a distance of 3 metres away from the wall.</p>
S7	<p>Draw the next three shapes in each of these patterns.</p> <p>(a) ← ↑ ↑ ← ↑ ↑ ← ↑ ↑</p> <p>(b) □ ◆ ○ ◆ □ ◆ ○ ◆ □ ◆ ○ ◆</p>

<p>S11</p>	<p>Choose the correct name for each of these solid shapes.</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; text-align: center; margin: 10px 0;"> <p>cube cuboid pyramid cone sphere cylinder</p> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>.....</p> </div> <div style="text-align: center;">  <p>.....</p> </div> <div style="text-align: center;">  <p>.....</p> </div> <div style="text-align: center;">  <p>.....</p> </div> <div style="text-align: center;">  <p>.....</p> </div> <div style="text-align: center;">  <p>.....</p> </div> </div>
<p>S12</p>	<p><i>You need some weighing scales. Your teacher will give you a pile of books and a bag of cubes.</i></p> <p>(a) Do the books weigh more than or less than 1 kilogram?</p> <p>(b) Weigh out exactly 200 grams of the cubes.</p>
<p>S13</p>	<p>(a) Write each of these measurements in full.</p> <p style="text-align: center;">4 kg 10 mm </p> <p>(b) Write each of these measurements using shorthand.</p> <p style="text-align: center;">15 litres 25 centimetres </p>

S16

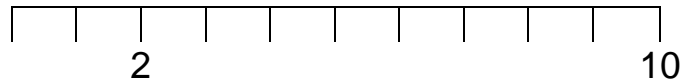
(a) What number does each arrow point to?



.....

(b) (i) Mark 5 on the scale below.

(ii) Mark 9 on the scale below.



S18

What time does each clock show?



.....



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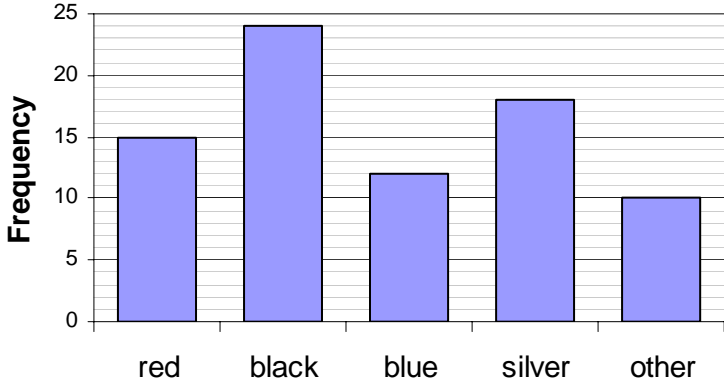
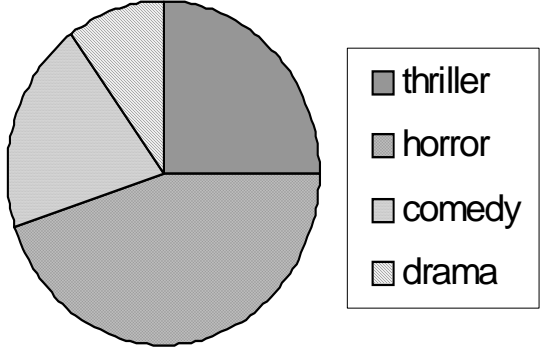
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Mathematics Progress Profile – Entry 3 Preliminary

Example questions

Reference	Question																						
D2	<p>(a) Kyle did a survey on the colours of car in a car park. This bar chart shows his results.</p> <p>(i) Which car colour was most popular?</p> <p>(ii) How many red cars were there?</p> <p>(iii) There were 10 cars of one colour. Which colour was this</p>																						
	<p style="text-align: center;">Colour of cars</p>  <table border="1"> <caption>Data for Colour of cars</caption> <thead> <tr> <th>Colour</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>red</td> <td>15</td> </tr> <tr> <td>black</td> <td>24</td> </tr> <tr> <td>blue</td> <td>12</td> </tr> <tr> <td>silver</td> <td>18</td> </tr> <tr> <td>other</td> <td>10</td> </tr> </tbody> </table> <p style="text-align: center;">Favourite type of film</p>  <table border="1"> <caption>Data for Favourite type of film</caption> <thead> <tr> <th>Film Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>thriller</td> <td>30%</td> </tr> <tr> <td>horror</td> <td>40%</td> </tr> <tr> <td>comedy</td> <td>20%</td> </tr> <tr> <td>drama</td> <td>10%</td> </tr> </tbody> </table> <p>(b) Kyle did a survey to find out what sort of film his friends liked best. This pie chart shows his results.</p> <p>(i) Which type of film was the least popular?</p> <p>(ii) Which type of film was the most popular?</p> <p>(iii) What fraction of people said 'thriller'?</p>	Colour	Frequency	red	15	black	24	blue	12	silver	18	other	10	Film Type	Percentage	thriller	30%	horror	40%	comedy	20%	drama	10%
Colour	Frequency																						
red	15																						
black	24																						
blue	12																						
silver	18																						
other	10																						
Film Type	Percentage																						
thriller	30%																						
horror	40%																						
comedy	20%																						
drama	10%																						

D4

This table shows some information about some volcanoes.

Volcano	Country	Height in metres	Last eruption
Ararat	Turkey	5137	1840
Etna	Italy	3350	2009
Fuji	Japan	3776	1707
Krakatoa	Indonesia	813	2009
Stromboli	Italy	926	2008
Vesuvius	Italy	1280	1944

- (a) What is the height of Ararat?
- (b) In which country is Krakatoa?
- (c) Which volcano last erupted in 1707?
- (d) Which volcano is in Italy and is less than 1000 metres high?

N8

(a) Work these out.

(i) $£15.25 - £2.05$ (ii) $30p + £10 + £1.05$

(b) James buys a cup of coffee for £1.50 and a cookie for 75p.

(i) What is the total cost of the coffee and cookie?

(ii) He pays with a £10 note. How much change does he get?

(c) Max has 65 parcels to deliver.
He has already delivered 28 of them.

How many does he have left?

N9

- (a) Alan buys 27 plant pots.
They cost ten pence each.

How much do they cost altogether?

- (b) Alan plants seeds in lines in a seed tray.
He has 40 seeds to plant.
He plants five seeds in each line.

How many lines of seeds will he have?

- (c) Alan sells three plants.
Here is the bill.

Daffodils	80p
Primroses	75p
Pansies	49p

Work out the total cost.

- (d) Alan grows 90 pots of tulips.
He sells 28 in the first week.

How many does he have left?

N10

(a) Look at these numbers.

5.7 2.8 3.1 2.4 3.5

Write the numbers in order from smallest to largest.

(b) Work these out.

(i) $1.49 + 7.5 = \dots\dots\dots$ (ii) $8.05 - 4.6 = \dots\dots\dots$

N11

(a) Work these out.

(i) $6 \times 2 = \dots\dots\dots$ (ii) $8 \times 5 = \dots\dots\dots$ (iii) $7 \times 10 = \dots\dots\dots$

(b) How many lots of 5 make 30?

(c) There are ten chocolates in one box.
How many chocolates are there in 4 boxes?

(d) I buy 2 cinema tickets. They cost 8 pounds altogether.
How much does each ticket cost?

N14

(a) This table shows the population of some countries in Europe.

Country	Population
Belgium	10 million
Italy	58 million
Netherlands	17 million
Spain	41 million

(i) What is the total population of Belgium and the Netherlands?

(ii) How many more people live in Italy than in Spain?

(b) On Saturday, 27 thousand people went to a rock festival.
On Sunday 21 thousand people went to the festival.

How many people went to the festival altogether?

<p>N16</p>	<p>(a) Here is a number pattern.</p> <p style="text-align: center;">4 7 10 13 ...</p> <p>(i) Write down the next number in the pattern.</p> <p>(ii) Explain how you worked out your answer.</p> <p>(b) Here is a number pattern.</p> <p style="text-align: center;">28 26 24 22 ...</p> <p>(i) Write down the next number in the pattern.</p> <p>(ii) Explain how you worked out your answer.</p>										
<p>N17</p>	<p>Write down the next four numbers in each of these number patterns.</p> <p>(a) Start at 2. Add 6 every time. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; text-align: center;">2</td><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table></p> <p>(b) Start at 50. Subtract 4 every time. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; text-align: center;">50</td><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td></tr></table></p>	2					50				
2											
50											

N23

(a) Complete this table.

Pounds	Pence
£3.20	320p
£4	
	150p
	85p

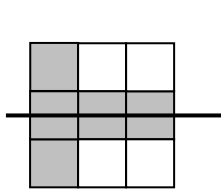
(b) Look at these amounts of money.

65p £1.01 £2 50p

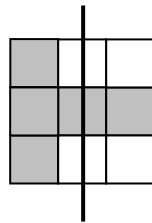
Write the amounts in order, starting with the most.

S5

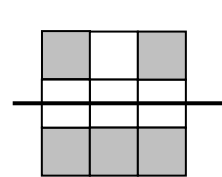
- (a) Which of these are lines of symmetry?
Put a tick (✓) under the ones that are lines of symmetry.
Put a tick (✗) under the ones that are not lines of symmetry.



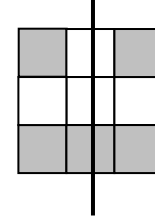
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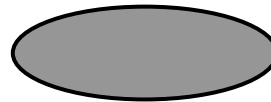
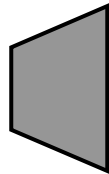


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- (b) Draw a line of symmetry on each of these shapes.

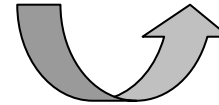
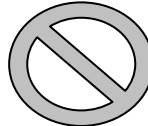
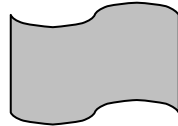
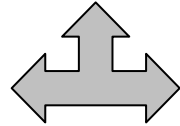


S6

(a) Which of these have reflection symmetry?

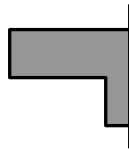
Put a tick (✓) under the ones that have reflection symmetry.

Put a tick (✗) under the ones that do not have reflection symmetry.

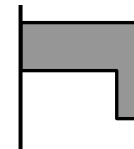
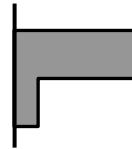
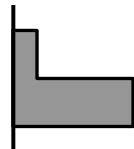


(b) This is part of a reflection pattern.

Mirror line

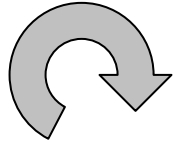


Which of these is the reflection? Please tick (✓)

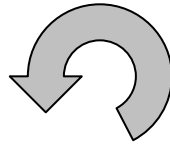


S10

(a) Which direction does each picture show, **clockwise** or **anticlockwise**?



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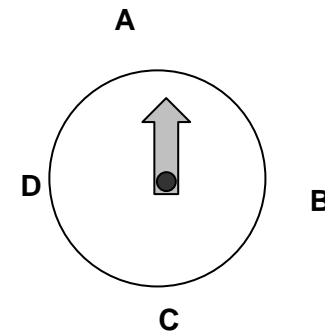


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(b) The arrow points to A.
It is turned one quarter turn anticlockwise.
What letter does it point to now?



(c) The arrow points to A.
It is turned one half turn clockwise.
What letter does it point to now?

S20	<p>(a) How many minutes are there in one hour?</p> <p>(b) How many hours are there in two days?</p> <p>(c) How many minutes is 180 seconds?</p>
S21	<p>(a) How many months are there in a year?</p> <p>(b) How many days are there in January?</p> <p>(c) Write this date in full.</p> <p>Wed 11th Aug 2010</p> <p>(d) Mrs Jones gets a magazine for five months. The first month is August.</p> <p>Complete this list to show the months.</p> <p>August, September,,,</p>

Mathematics Progress Profile – Entry 3 Final

Example questions

Reference	Question																				
D5	<p>Look at this train timetable.</p> <table border="1"><tbody><tr><td>Birmingham New Street</td><td>07:45</td><td>08:15</td><td>08:45</td></tr><tr><td>Coventry</td><td>08:07</td><td>08:37</td><td>09:07</td></tr><tr><td>Milton Keynes Central</td><td>08:47</td><td>09:17</td><td>09:47</td></tr><tr><td>Watford Junction</td><td>09:17</td><td>09:47</td><td>10:17</td></tr><tr><td>London Euston</td><td>09:49</td><td>10:19</td><td>10:49</td></tr></tbody></table> <p>(a) What time does the second train leave Birmingham New Street?</p> <p>(b) What time does the 08:45 from Birmingham get to Watford Junction?</p> <p>(c) John is on the train that arrives at London Euston at 09:49. What time did this train leave Coventry?</p>	Birmingham New Street	07:45	08:15	08:45	Coventry	08:07	08:37	09:07	Milton Keynes Central	08:47	09:17	09:47	Watford Junction	09:17	09:47	10:17	London Euston	09:49	10:19	10:49
Birmingham New Street	07:45	08:15	08:45																		
Coventry	08:07	08:37	09:07																		
Milton Keynes Central	08:47	09:17	09:47																		
Watford Junction	09:17	09:47	10:17																		
London Euston	09:49	10:19	10:49																		

D6

Here is part of a calendar.

April 2010					
Mon	5	12	19	26	
Tues	6	13	20	27	
Wed	7	14	21	28	
Thur	1	8	15	22	29
Fri	2	9	16	23	30
Sat	3	10	17	24	
Sun	4	11	18	25	

- (a) What date is the last Monday in April?
- (b) What day is it 3 days after 7 April?
- (c) What date is it one week before 23 April?

N1

- (a) Read out these numbers. **250 607 392**
- (b) Write in words the number 635.
- (b) Write in figures the number eight hundred and sixty.
- (c) Write these numbers in order, smallest first. **761 176 617**

N2	<p>(a) Start at 14. Count up in tens. Write down your next five numbers. 14</p> <p>(b) Count backwards from 32. Write down the next six numbers. 32 31</p>
N3	<p>(a) Work these out.</p> <p>(i) 4 times 3 = (ii) 8 divided by 2 =</p> <p>(iii) 6 multiplied by 5 = (iv) 20 shared by 4 =</p> <p>(b) Work these out.</p> <p>(i) half of 16 = (ii) double 10 = (iii) twice 9 =</p>
N4	<p>Work out each answer.</p> <p>(a) $15 + 4 = \dots\dots\dots$ (b) $9 + 11 = \dots\dots\dots$</p> <p>(c) $18 - 6 = \dots\dots\dots$ (d) $14 - 7 = \dots\dots\dots$</p>

<p>N12</p>	<p>(a) Pam has thirty small Easter eggs. She has six grandchildren. They share the eggs equally.</p> <p>How many eggs do they each get?</p> <p>(b) Nicky grows some daffodils. On Tuesday there are 8 flowers. On Wednesday there are twice as many.</p> <p>How many are there on Wednesday?</p> <p>(c) Colin buys three packs of pens. There are six pens in each pack.</p> <p>How many pens does he buy altogether?</p>
<p>N15</p>	<p>Fill in the missing numbers.</p> <p>$60 \div \square = 6$ $\square + 20 = 70$</p> <p>$\square - 16 = 14$ $7 \times \square = 35$</p>

N19

(a) Work these out.

(i) $\frac{1}{2}$ of 20 = (ii) $\frac{1}{4}$ of 12 = (iii) $\frac{3}{4}$ of 12 =

(b) Val wants to swim 20 lengths of the pool.
She swims one quarter of them using front crawl.

How many lengths does she swim using front crawl?

(c) Mark needs £50.
He has saved half of it.

How much has he saved?

N21



- (a) Which of these coins could be used to make exactly £2.75.
- (b) Bill buys a pen for 68p. He pays with a £1 coin.
How much change should he get?
- (c) Sue buys a magazine for £2.95. She pays with a £5 note.
How much change should she get?

N22	<p>(a) Kim buys six concert tickets. Each ticket costs £12.</p> <p>How much does she pay altogether?</p> <p>(b) Nasim pays £90 for three months membership of a gym.</p> <p>How much is this for each month?</p>
S4	<p>(a) How many faces does a cuboid have?</p> <p>(b) Name a solid shape with a curved face.</p>

S7

(a) Look at this pattern.



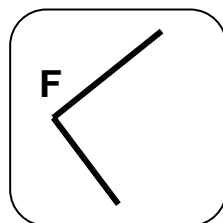
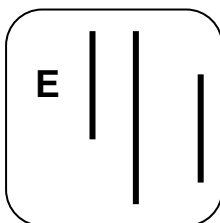
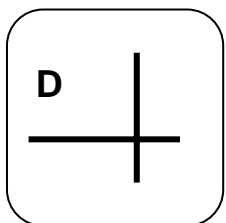
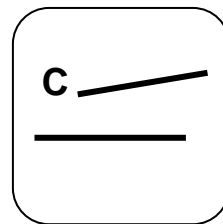
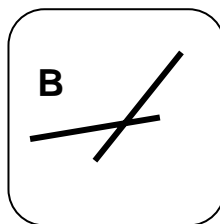
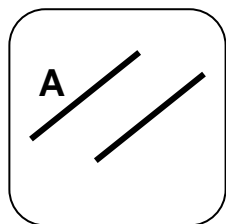
What shape comes next? Explain how you know.

(b) Look at this pattern.



What shape comes next? Explain how you know.

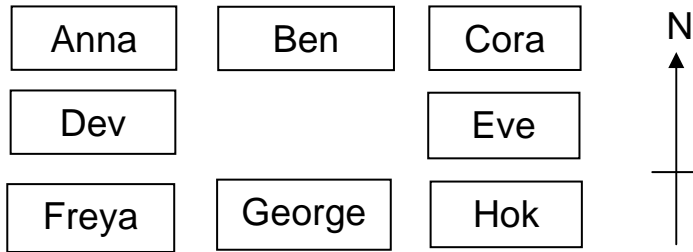
S8



(a) Which of these diagrams show parallel lines?

(b) Which of these diagrams show right angles?

S9



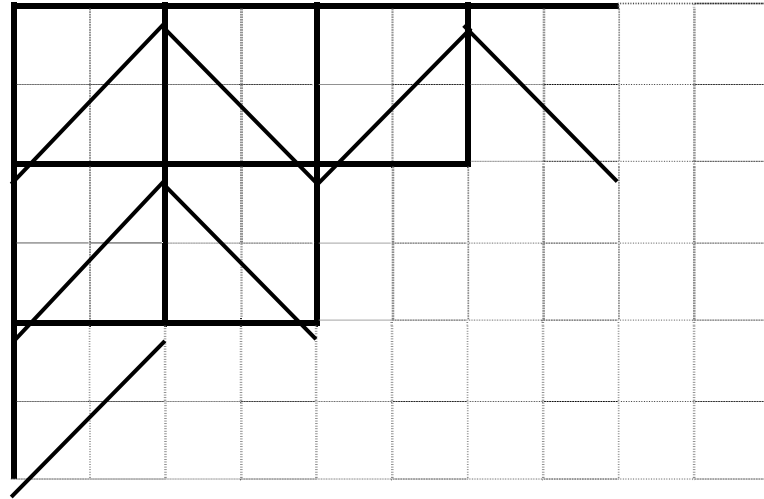
(a) Who is North of Dev?

(b) Who is East of George?

(c) Who is West of Eve?

S11

- (a) Here is part of a repeating pattern.
Continue the pattern.



- (b) Use three cubes.
How many different shapes can you make using these three cubes?

S13

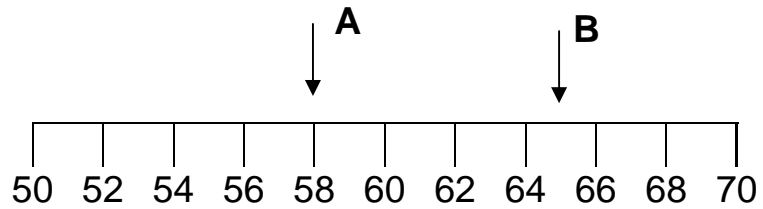
80 m 80 g 80 kg 160 km 160 l 500 cm 500 ml

Choose the best measurement from the list for each of these.

- (a) The weight of a man.
- (b) The distance from London to Birmingham.
- (c) The weight of a letter.
- (d) The amount of water in a bottle.

S14

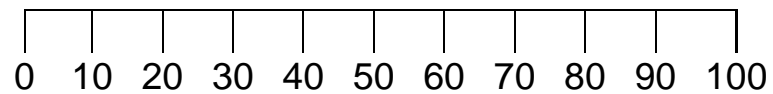
(a) What number does each arrow point to?



A **B**

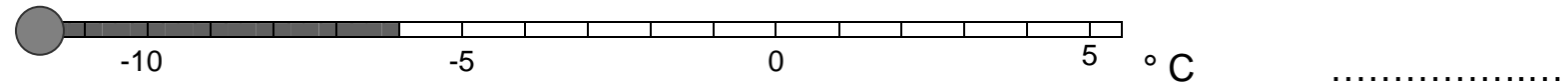
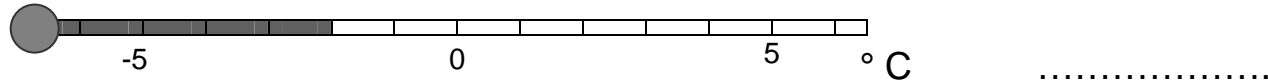
(b) (i) Mark 70 on the scale below.

(ii) Mark 25 on the scale below.



S15

(a) Write down the temperature shown on each thermometer.



(b) This table shows the temperatures at 5 am each day one week.

Day	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Temperature in °C	-1	0	2	-3	-5	4	-2

(i) Which day was coldest?

(ii) Which day was warmest?

S19

(a) Vicky bakes a cake. She puts it in the oven at 2:10 pm.
She takes it out at 2:35 pm.

For how long was it in the oven?

(b) Vicky puts a pie in the oven at 2:45 pm.
She bakes it for 30 minutes.

What time does she take it out of the oven?

(c) Vicky makes some sausage rolls
They take 20 minutes to cook.
She wants them to be ready at 4 pm.

When should she put them in the oven?

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5. Acknowledgements

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