

Class:		Week:	Time: 2hrs	Maths Topic: Unit 10 / N3 / Calculations 1 (Part 2 of 2):Written Methods			
Lesson No.	Mental Starters	Learning Outcomes	Key Vocabulary	Introductory Ideas	Main Activity	Plenary	Resources
L1 1 hr	'24 Game' (choose any 4 numbers, use all 4 to make 24, with any 4 arithmetical operations) (whole class or in pairs using WS N3/2: 24 Game Score Sheet)	<ul style="list-style-type: none"> ◆ Know and use the order of operations (BODMAS) ◆ Plan and carry out operations using brackets, including use of a calculator. ◆ Solve problems and puzzles in number, including number 	Operation, Add, Subtract Multiply, Divide, Sum, Total, Product, Multiple.	Use a string of numbers on board to demonstrate different answers with LTR and scientific calculators. Explain rules of BODMAS.	1). Investigate ways of making different totals using same 3 numbers. Eg: Starting with 2,4 and 5 can you make numbers 1-10? Biggest number? Smallest number? Number nearest to 0? 10? ... 2). Repeat with larger numbers. 3). Collect results on board using rules of BODMAS. 4). Use WS N3/2: 24 Game Score Sheet to allow pupils to play on pairs. Winning partner writes down their solution using BODMAS rules. Extend by allowing use of square root operation if appropriate.	I'm thinking of a number and when I..., then ... I get ... What number am I thinking of? Puzzles set by teacher (or individual pupils); pupils to suggest how to write this down. (linking with later unit on equations A4)	P19 WS N3/2: 24 Game Score Sheet Choose one finished 24 Game sheet and photocopy (with answers blanked out) for homework
L2 1 hr	Give 2 or 3 numerical expression but with 3 different answers. Pupils to decide where missing brackets should go to make them right.	ditto	ditto	Draw a BODMAS spider with starting number such as 12 at centre with 8 legs labelled with 4 operations (+2, -3, x4, ÷4) and ask for expressions (12+2,etc). Add a 2 nd step to each to prompt answers such as (12+2) x 3; extend as appropriate. Work out answers using bracket key on calculator.	1). Use a BODMAS Spider with a different starting numbers at centre; allow extension to decimal, fractional and negative numbers. 2). Link with problems requiring rules of BODMAS and involving the following keys: +, -, x, ÷, (), sign-change, square root and M keys (fractions key and % key could be left until N4 Unit).	Use a BODMAS Spider with a decimal or fractional starting number.	P19

WS N3/2: 24 Game Score Sheet