









	<p>addition and subtraction N20 11.1!</p> <ul style="list-style-type: none"> <li>• Use estimation to predict the order of magnitude of the solution to a (decimal) calculation</li> <li>• Check the order of magnitude of the solution to a (decimal) calculation</li> <li>• Estimate multiplication calculations that involve multiplying up to four digit numbers by a two digit number N43a, #, 0</li> <li>• Estimate multiplication calculations that involve multiplying numbers with up to two decimal places by whole numbers N43a, #, 0</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate multiplication calculations that involve multiplying up to four digit numbers by a two digit number N43a, #, 0</li> </ul>				
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		<p>common denominator that can be used to order a set of fractions N34 0!</p> <ul style="list-style-type: none"> <li>• Order fractions where the denominators are not multiples of each other N34 0"</li> <li>• Order a set of numbers including a mixture of fractions, decimals and negative numbers N34, N2a, N2b ±</li> </ul> <p>#</p> <ul style="list-style-type: none"> <li>• Add (subtract) fractions with different denominators N36 0+ 0*</li> <li>• Add (subtract) a mixed number and a fraction, including with</li> </ul>	<ul style="list-style-type: none"> <li>• Assess likelihood and place events on a probability scale P1 #0, #00</li> <li>• List all the outcomes for an experiment P2a #0+ #10</li> <li>• Identify (usually) likely outcomes #00 #01</li> <li>• Work out theoretical probabilities for events with (usually) likely outcomes #00 #01</li> <li>• Know how to represent a probability</li> <li>• Recognise when it is not possible</li> </ul>		<p>three decimal places when converting metric units</p>	
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		different denominators N36, N41 <u>10 11</u>				
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		<p>(quantity N24b "1"!)</p> <ul style="list-style-type: none"> <li>Use non calculator methods to find a percentage of an amount N24b "1"! </li> <li>Use decimal or fraction equivalents to find a percentage of an amount where appropriate N24b "!" ""</li> </ul> <p>Solve problems involving the use of percentages to make comparisons N39b "!" ""</p>	<p>A11a 1, " 1, +</p> <ul style="list-style-type: none"> <li>Use a term to generate a linear sequence A11a 1, " 1, +</li> </ul>			
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Curriculum Area: Mathematics			
Subtopic:			
Year Group	Strategic Objectives	Clear Objectives	Outcome Objectives
9	<p>7upils try different approaches and find ways of overcoming difficulties that arise when they are solving problems? They are beginning to organise their work and check results? 7upils discuss their mathematical work and are beginning to explain their thinking? They use and interpret mathematical symbols and diagrams? 7upils show that they understand a general statement by finding particular examples that match it?</p>	<p>7upils carry out substantial tasks and solve (quite complex) problems by independently and systematically breaking them down into smaller, more manageable tasks? They interpret, discuss and synthesise information presented in a variety of mathematical forms, relating findings to the original context? Their written and spoken language explains and informs their use of diagrams? They begin to give mathematical justifications, making connections between the current situation and situations they have encountered before?</p>	<p>7upils develop and follow alternative approaches? They compare and evaluate representations of a situation, introducing and using a range of mathematical techniques? They reflect on their own lines of enquiry when exploring mathematical tasks? They communicate mathematical or statistical meaning to different audiences through precise and consistent use of symbols that is sustained throughout the work? They examine generalisations or solutions reached in an activity and make further progress in the activity as a result? They comment constructively on the reasoning and logic, the process employed and the results obtained?</p>
10	<p>7upils develop their own strategies for solving problems and use these strategies both in working within mathematics and in applying mathematics to practical contexts? When solving problems, with or without help, they check their results are reasonable by considering the context? They look for patterns and relationships, presenting information and results in a clear and organised way, using help appropriately? They search for a solution by trying out ideas of</p>	<p>Starting from problems or contexts that have been presented to them, pupils explore the effects of varying values and look for invariance in models and representations, working with and without help? They progressively refine or extend the mathematics used, giving reasons for their choice of mathematical presentation and explaining features they have selected? They justify their generalisations, arguments or solutions, looking for equivalence to different problems with similar structures? They</p>	<p>7upils critically examine the strategies adopted when investigating within mathematics itself or when using mathematics to analyse tasks? They explain why different strategies were used, considering the elegance and efficiency of alternative lines of enquiry or procedures? They apply the mathematics they know in a wide range of familiar and unfamiliar contexts? They use mathematical language and symbols effectively in presenting a convincing,</p>


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begin to reason deductively in geometry, number and algebra, including using geometrical constructions  
 interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning  
 explore what can and cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally!

**Solve problems**

develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems

develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics

begin to model situations mathematically and express the results using a range of formal mathematical representations

select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems!

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