


Subject	Year	Month		
Mathematics	9	January		
Topic:				
SOLVING INEQUALITIES				7 LESSONS
Content (Intent)				
Prior Learning Y7 <ul style="list-style-type: none"> Understand the meaning of the four inequality symbols Solve linear equations with unknown on one side Y8 <ul style="list-style-type: none"> Solve linear equations including those with unknowns on both sides 		Future Learning <ul style="list-style-type: none"> Solving double ended inequalities Solving quadratic inequalities Inequality regions 		
Objectives <ul style="list-style-type: none"> 1 lesson RECAP on all the algebra so far (including expanding and factorising) List integers that are solutions to an inequality Know how to show a range of values that solve an inequality on a number line Solve a linear inequality in one variable with unknowns on one side Solve a linear inequality in one variable with unknowns on both sides Solve a linear inequality in one variable involving brackets Solve a linear inequality in one variable involving negative terms HIGHER Solve worded problems by constructing and solving linear inequalities in one variable		For teaching purposes Possible Questions <ul style="list-style-type: none"> Show me an inequality with the solution $x \geq 5$. And another. And another ... Convince me that there are only 5 common integer solutions to the inequalities $4x < 28$ and $2x + 3 \geq 7$. What is wrong with this statement? $1 - 5x \geq 8x - 15$ so $1 \geq 3x - 15$. Possible Misconceptions may think that... <ul style="list-style-type: none"> it is possible to multiply or divide both sides of an inequality by a negative number with no impact (e.g. if $-2x > 12$ then $x > -6$) a negative x term can be eliminated by subtracting that term (e.g. if $2 - 3x \geq 5x + 7$, then $2 \geq 2x + 7$) apply incorrect approach to expanding brackets e.g. if $2(3x - 3) < 4x + 5$, then $6x - 3 < 4x + 5$ 		
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)		
<p>The mathematical process of solving a linear inequality is identical to that of solving linear equations. 1 exception is knowing how to deal with situations when multiplication or division by a negative number is a possibility.</p> <p><i>Students could be taught to manipulate algebraically.</i> E.g. $-2x > 8$, do not divide by -2 but add $2x$ to both sides.</p> <p>NCETM: Departmental workshops: Inequalities</p> <p>The number line to represent solutions to inequalities. An open circle represents a boundary that is not included. A filled circle represents a boundary that is included.</p> <p>Set notation; e.g. $\{-2, -1, 0, 1, 2, 3, 4\}$</p>		End of term Assessment in February Exams in May How can parents help at home? MathsWatch clips (Qualification KS3) A20a, A20b		
Further reading/discussion				
Reading / Enrichment KM: Stick on the Maths: Inequalities KM: Convinced?: Inequalities in one variable NRICH: Inequalities	Literacy Linear) inequality Unknown Manipulate Solve Solution set Integer < (less than) > (greater than) ≤ (less than or equal to) ≥ (more than or equal to)	Numeracy Links	Careers Links Engineer Business Owner Accountant	