Year 8 Spring 1

KEYWORDS:

Product	Means to multiple. Eg: the product of 3 and 4 is 3 x 4	**Variable**	A letter that represents an unknown number
Expand	Multiply each term inside the bracket by the term in front of the bracket	**Substitute**	Replacing variables with numbers to calculate a numerical answer
Linear	An equation where the highest power that appears is	**Coefficient**	A value, that appears in front of, and multiples
Factorise	The reverse of expanding brackets	**Linear Sequence**	A sequence that increases or decreases by the same amount each time

Expanding Single Brackets

Expand $3(x+2)$

$$3(x+2) \equiv 3x+6$$

	x	$+2$
3	$3x$	$+6$

Video 160

Sequences

Find the nth term of the sequence 3, 7, 11, 15, 19,...

-1

	4	8	12	16	20
	3	7	11	15	19
	4	4	4	4	

Related to 4 times tables

$$4n - 1$$

Video 198

Solving Linear Equations and Inequalities

To solve an equation or an inequality, perform the inverse operation on both sides of the equation to find the value of the unknown

$$5a - 7 = 58$$
$$+7 \quad +7$$
$$5a = 65$$
$$\div 5 \quad \div 5$$
$$a = 13$$

$$\frac{1}{2}x + \frac{1}{5} = 4$$
$$\times 10 \quad \times 10$$
$$5x + 2 = 40$$
$$-2 \quad -2$$
$$5x = 38$$
$$\div 5 \quad \div 5$$
$$x = \frac{38}{5}$$

$$2x + 7 = x + 15$$
$$x + 7 = 15$$
$$x = 8$$

15 - 7 = 8

x	x	7
x	15	

You can also use bar models to solve linear questions

Video 269– 271

Factorising Single Brackets

Fully factorise $20x + 8$

$20x \div 4 = 5x$

$8 \div 4 = 2$

	$5x$	$+2$
4		

HCF

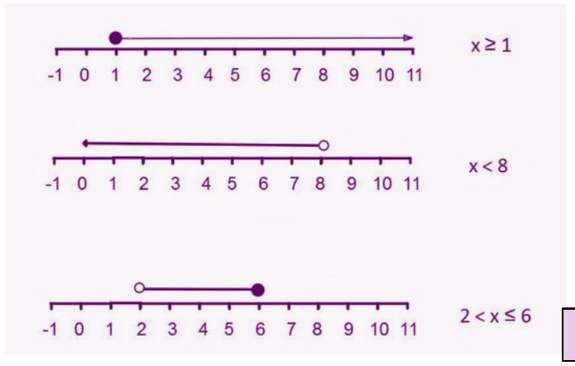
$$20x+8 \equiv 4(5x+2)$$

Video 168

Drawing Linear Inequalities

Open circles are used for numbers that are **less than** or **greater than** (< or >)

Closed circles are used for numbers that are **less than or equal to** or **more than or equal to (≤ or ≥)**



Video 165