Algebra - 2022 A2 June

1.	March/2022/Paper_9709/32/No.1 Solve the inequality $ 2x + 3 > 3 x + 2 $.	[4]
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rina the que	otient and remainder when $8x^3 + 4x^2 + 2x + 7$ is divided by $4x^2 + 2x + 7$	1.
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)	Hence find the exact value of $\int_0^2 \frac{8x^3 + 4x^2 + 2x + 7}{4x^2 + 1} dx.$	I
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The (<i>x</i> –	polynomial $ax^3 - 10x^2 + bx + 8$, where a and b are constants, is denoted by $p(x)$. It is given that 2) is a factor of both $p(x)$ and $p'(x)$.
(a)	Find the values of a and b . [5]
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3. June/2022/Paper_9709/31/No.5

when a and b have these values, factorise $p(x)$ completely.	[3
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The polynomial $ax^3 + x^2 + bx + 3$ is denoted by $p(x)$. It is given that $p(x)$ is divisible by $(2x - 1)$ at that when $p(x)$ is divided by $(x + 2)$ the remainder is 5.	ınd
Find the values of a and b .	[5]
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4. June/2022/Paper_9709/32/No.3

	2 3x + a < 2x + 3a ,	
wh	here a is a positive constant.	[4]
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5. June/2022/Paper_9709/33/No.1 Find, in terms of a, the set of values of x satisfying the inequality