

Year 12-13 Transition Booklet Pure Mathematics - Homework Book Students Copy

Name	
Teacher	

Contents

1.	Surds and Indices	2
2.	Completing the square	5
3.	Simultaneous Equations and Discriminant	11
4.	Inequalities	18
5.	Curve Sketching	22
6.	Functions, sketching & transformations	26
7.	Coordinate Geometry	33
8.	Sequences and Series	40
9.	Differentiation	50
10	. Integration	57
11	. Partial Fractions (Year 2)	

1. <u>Surds and Indices</u>

HOMEWORK MARK	SUBMISSION DATE		TARGET GRADE	HOMEWORK GRADE
SECTION B: SELF ASSESSM Please identify the areas i Provide evidence to suppo homework.	n which you feel you ha	ve streng	ths and those in which	
STRENG	STHS		AREAS FOR IMPR	OVEMENT
SECTION C: TUTOR FEEDB	ACK			
STRENC	ETHS		AREAS FOR IMPR	OVEMENT

4	
1.	Write

V	75	- V	(27)

	in th	e form $k \ \forall x$, where k and x are integers.	(Total 2 marks)
			(Total 2 marks)
Adventure and the second			

2.	(a)	Find the value of $8^{\frac{4}{3}}$.	(0)
			(2)
	(b)	Simplify $\frac{15x^{\frac{4}{3}}}{3x}$.	
	` .	3x	(2)
			(Total 4 marks)

3.	Simp	olify	
	(a)	(3 v7) ²	(1)
	(b)	(8 + √5)(2 − √5)	(3) (Total 4 marks)
4.	(a)	Expand and simplify $(7 + \sqrt{5})(3 - \sqrt{5})$.	(3)
	(b)	Express $\frac{7+\sqrt{5}}{3+\sqrt{5}}$ in the form $a+b$ $\sqrt{5}$, where a and b are integers.	(3)
			(Total 6 marks)
Marin			

2. Completing the square

HOMEWORK MARK	SUBMISSION DAT	E TAR	GET GRADE	HOMEWORK GRADE
SECTION B: SELF ASSESSM Please identify the areas i improve. Provide evidence homework.	n which you feel you h	nave strengths an		
STRENG	THS	AF	REAS FOR IMP	PROVEMENT
SECTION C: TUTOR FEEDB	ACK			
STRENG	THS	AF	REAS FOR IMP	PROVEMENT

Q1.

$$4x - 5 - x^2 = q - (x + p)^2$$

where p and q are integers.

Find the value of p and the value of q .	
	(3) (Total 3 marks)
	NIPT PART 1944 1944 1944 1944 1944 1944 1944 194

Q2.	
Show that $x^2 + 6x + 11$ can be written as $(x + p)^2 + q$	
where p and q are integers to be found.	
	(2 (Total 2 marks

$f(x) = x^2 + 4kx + (3+11k)$, where k is a constant.

Express $f(x)$ in the form $(x + p)^2 + q$, where p and q are constants to be found in te	erms of <i>k</i> .
	(3) (Total 3 marks)

Q4.	
Given that	
$f(x) = 2x^2 + 8x + 3$	
(a) find the value of the discriminant of $f(x)$.	
	(2)
(b) Express $f(x)$ in the form $p(x+q)^2 + r$ where p , q and r are integers to be found.	
	(3)
	(Total 5 marks)

Astronomic Control of the Control of

3. <u>Simultaneous Equations and Discriminant</u>

HOMEWORK MARK	SUBMISSION DATE	TARG	ET GRADE	HOMEWORK GRADE
SECTION B: SELF ASSESSM Please identify the areas i improve. Provide evidence homework.	in which you feel you ha	ave strengths and	I those in wh eference to t	ich you need to he content of your
STRENG	THS	ARI	EAS FOR IMP	ROVEMENT
SECTION C: TUTOR FEEDE	BACK			
STRENG	THS.	ARI	EAS FOR IMP	ROVEMENT

x + y = 2	
$4y^2 - x^2 = 11$	
·	
	(7-1-17
	(Total 7 marks
-	

Q1. Solve the simultaneous equations

Q2.

Solve the simultaneous equations	
y-3x+2=0	
$y^2 - x - 6x^2 = 0$	
	(7)
	(Total 7 marks)

Q3.	
Given the simultaneous equations	
2x + y = 1	
$x^2 - 4ky + 5k = 0$	
where k is a non zero constant,	
(a) show that	
$x^2 + 8kx + k = 0$	4-1
	(2)
Given that $x^2 + 8kx + k = 0$ has equal roots,	
(b) find the value of k.	(0)
(a) For this value of / find the salvation of the simultaneous and time	(3)
(c) For this value of k , find the solution of the simultaneous equations.	(2)
	(3) (Total 8 marks)
	(Total o marks)
	y A

Q4. Given that $f(x) = 2x^2 + 8x + 3$ (a) find the value of the discriminant of f(x). (2) (b) Express f(x) in the form $p(x + q)^2 + r$ where p, q and r are integers to be found. (3) (Total 5 marks)

CONTROL OF THE PROPERTY OF THE	

4. <u>Inequalities</u>

HOMEWORK MARK	SUBMISSION DA	VTE .	TARGET GRADE	HOMEWORK GRADE		
SECTION B: SELF ASSESSIVE Please identify the areas i improve. Provide evidence homework.	n which you feel you	ı have strer	gths and those in wh			
STRENGTHS			AREAS FOR IMPROVEMENT			
SECTION C: TUTOR FEEDB	ACK					
STRENG	STRENGTHS		AREAS FOR IMP	ROVEMENT		

1. Find the set of values of x for which $x^2 - 7x - 18 > 0$. (Total 4 marks)

۷.	Find		
	(a)	3(x-2)<8-2x	(2)
	(b)	(2x-7)(1+x)<0	(3)
	(c)	both $3(x-2) < 8-2x$ and $(2x-7)(1+x) < 0$	(1) (Total 6 marks)

	·····		

3.	Find	the set of values of x for which	
	(a)	4x-3>7-x	(2)
	(b)	$2x^2 - 5x - 12 < 0$	(4)
	(c)	both $4x - 3 > 7 - x$ and $2x^2 - 5x - 12 < 0$	(1) (Total 7 marks)

	V		
	······································		

5. Curve Sketching

HOMEWORK MARK	SUBMISSION DA	NTE	TARGET GRADE	HOMEWORK GRADE		
SECTION B: SELF ASSESSI Please identify the areas improve. Provide eviden- homework.	in which you feel you	ı have stre	engths and those in wh			
STRENGTHS			AREAS FOR IMPROVEMENT			
SECTION C: TUTOR FEEDI	SACK					
STRENG	iths		AREAS FOR IMP	ROVEMENT		

1.

(a)	Describe fully a single transformation that maps the graph of $y = \frac{1}{x}$ onto the	
	graph of $y = \frac{3}{x}$.	(2)

(b)	Sketch the graph of $y = \frac{3}{x}$	and write down the equations of any asymptotes.	(3)

.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
name to the state of the state			
·····			
Approximation of the second			
······································			

2.

$$f(x) = 4x - 3x^2 - x^3.$$

- (a) Fully factorise $4x 3x^2 x^3$. (3)
- (b) Sketch the curve y = f(x), showing the coordinates of any points of intersection with the coordinate axes. (3)

·	
·	

3.	
The curve C has the equation $y = f(x)$ where	
$f(x) = (x+2)^3.$	
(a) Sketch the curve C, showing the coordinates of any points of intersection with the coordinate axes.	(3)
	4
	····

6. Functions, sketching & transformations

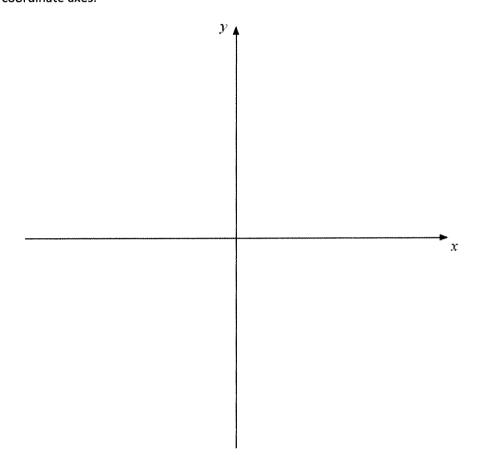
SECTION B: SELF ASSESSMENT (to be completed by student) Please identify the areas in which you feel you have strengths and those in which you need to improve. Provide evidence to support yourself assessment with reference to the content of yo homework. STRENGTHS AREAS FOR IMPROVEMENT SECTION C: TUTOR FEEDBACK STRENGTHS AREAS FOR IMPROVEMENT	ur
Please identify the areas in which you feel you have strengths and those in which you need to improve. Provide evidence to support yourself assessment with reference to the content of yo homework. STRENGTHS AREAS FOR IMPROVEMENT SECTION C: TUTOR FEEDBACK	ur
Please identify the areas in which you feel you have strengths and those in which you need to improve. Provide evidence to support yourself assessment with reference to the content of yo homework. STRENGTHS AREAS FOR IMPROVEMENT SECTION C: TUTOR FEEDBACK	ur
SECTION C: TUTOR FEEDBACK	
STRENGTHS AREAS FOR IMPROVEMENT	

1. (a) On the axes below sketch the graphs of

(i)
$$y = x(4-x)$$

(ii)
$$y = x^2 (7 - x)$$

showing clearly the coordinates of the points where the curves cross the coordinate axes.



(b) Show that the x-coordinates of the points of intersection of

$$y = x (4 - x)$$
 and $y = x^2 (7 - x)$

are given by the solutions to the equation $x(x^2 - 8x + 4) = 0$

(3)

(5)

The point A lies on both of the curves and the x and y coordinates of A are both positive.

(c) Find the exact coordinates of A, leaving your answer in the form $(p + q\sqrt{3}, r + s\sqrt{3})$, where p, q, r and s are integers.

(7)

(Total 15 marks)

2.	(a)	Factorise completely x^3 - $4x$.	(3)
	(b)	Sketch the curve with equation $y = x^3 - 4x$, showing the coordinates of the points where the curve crosses the x -axis.	(3)
	(c)	On a separate diagram, sketch the curve with equation	
		$y = (x-1)^3 - 4(x-1),$	
	E-manual New Yorks	showing the coordinates of the points where the curve crosses the x-axis.	(3) arks)
			
	····		

	WWW.

THE RESIDENCE OF THE RE	

3.	(a)	Factorise completely $x^3 - 6x^2 + 9x$	3)
	(b)	Sketch the curve with equation	
		$y = x^3 - 6x^2 + 9x$	
		showing the coordinates of the points at which the curve meets the x-axis.	4)
	Using y	our answer to part (b), or otherwise,	
	(c)	sketch, on a separate diagram, the curve with equation	
		$y = (x-2)^3 - 6(x-2)^2 + 9(x-2)$	
		showing the coordinates of the points at which the curve meets the x-axis.	~ \
		(Total 9 mark	2) :s)

7. <u>Coordinate Geometry</u>

HOMEWORK MARK	SUBMISSION DA	TE	TARGET GRADE	HOMEWORK GRADE	
SECTION B: SELF ASSESSMENT (to be completed by student) Please identify the areas in which you feel you have strengths and those in which you need to improve. Provide evidence to support yourself assessment with reference to the content of your homework.					
STRENG	THS		AREAS FOR IMP	ROVEMENT	
SECTION C: TUTOR FEEDE	ACK				
STRENG	THS		AREAS FOR IMP	ROVEMENT	

^	4	
F 1		

The points P and Q have coordinates $(-1, 6)$ and $(9, 0)$ respectively.					
The line I is perpendicular to PQ and passes through the mid-point of PQ .					
Find an equation for l , giving your answer in the form $ax + by + c = 0$, where a , b and	d c are integers.				
	(5)				
	(Total 5 marks)				
	·				

Q2.	
The line I_1 has equation $3x + 5y - 2 = 0$	
(a) Find the gradient of I_1 .	4-1
The line l_2 is perpendicular to l_1 and passes through the point (3, 1).	(2)
(b) Find the equation of I_2 in the form $y = mx + c$, where m and c are constants.	
	(3) (Total 5 marks)
	A STATE OF THE STA
	Autoria de 1600 de 160

	_		
4	_	~	

The straight line L_1 passes through the points (-1, 3) and (11, 12).	
(a) Find an equation for L_1 in the form $ax + by + c = 0$, where a , b and c are integers.	
	(4)
The line L_2 has equation $3y + 4x - 30 = 0$.	
(b) Find the coordinates of the point of intersection of L_1 and L_2 .	(3)
	(Total 7 marks)

######################################			
ASSESSMENT OF THE PROPERTY OF		***************************************	
			 , , , , , , , , , , , , , , , , , , ,
		A101440	

Q4.

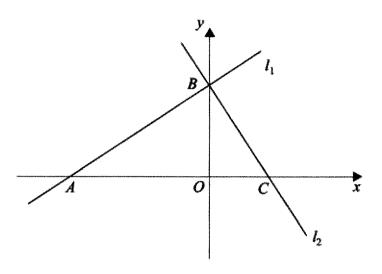


Figure 1

The line I_1 has equation 2x - 3y + 12 = 0

(a) find the gradient of l_1 .

(1)

The line l_1 crosses the x-axis at the point A and the y-axis at the point B, as shown in Figure 1.

The line l_2 is perpendicular to l_1 and passes through B.

(b) Find an equation of I_2 .

(3)

The line l_2 crosses the x-axis at the point C.

(c) Find the area of triangle ABC.

(4)

(Total 8 marks)

,	
W-1.6.MM	
	•••••
	<u> </u>

8. <u>Sequences and Series</u>

HOMEWORK MARK	SUBMISSION DATE	TARGET GRADE	HOMEWORK GRADE
	n which you feel you ha	by student) ve strengths and those in wh sessment with reference to t	
STRENG	THS	AREAS FOR IMP	ROVEMENT
SECTION C: TUTOR FEEDE	No.		
SECTION C: TOTOR FEEDE		AREAS FOR IMP	ROVEMENT

1.	A sec	equence of positive numbers is defined by	
		$a_{n+1}=\sqrt{(a_n^2+3)}, \qquad n\geq 1,$	
		$a_1 = 2$	
	(a)	Find a_2 and a_3 , leaving your answers in surd form.	(2)
***************************************	(b)	Show that $a_5 = 4$	(2) (Total 4 marks)
			300 300 300 300 300 300 300 300 300 300

2.	A sequence x_1 , x_2 , x_3 , is defined by		
		$x_1 = 1$,	
		$x_{n+1} = ax_n - 3, n > 1,$	
	whe	ere a is a constant.	
	(a)	Find an expression for x_2 in terms of a .	(1)
	(b)	Show that $x_3 = ax_2 - 3a - 3$.	(2)
	Give	en that $x_3 = 7$,	
***************************************	(c)	find the possible values of a.	(3) (Total 6 marks)

	//		

4.	 A 40-year building programme for new houses began in Oldtown in the year 1951 (Year and finished in 1990 (Year 40). 	
The numbers of houses built each year form an arithmetic sequence with first term a and common difference d .		
	Give find	n that 2400 new houses were built in 1960 and 600 new houses were built in 1990,
	(a)	the value of d , (3)
	(b)	the value of a , (2)
	(c)	the total number of houses built in Oldtown over the 40-year period. (3)
		(Total 8 marks)

	A. W	

received the received to the backets		
***************************************	A-7-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	

5.	A sequence $a_1, a_2, a_3 \dots$, is defined by	
	$a_1 = k$,	
	$a_{n+1}=3a_n+5, n\geq 1,$	
	where k is a positive integer.	
	(a) Write down an expression for a_2 in terms of k .	(1)
	(b) Show that $a_3 = 9k + 20$.	(2)
	(c) (i) Find $\sum_{r=1}^{4} a_r$ in terms of k .	
	(ii) Show that $\sum_{r=1}^4 a_r$ is divisible by 10.	(4) (Total 7 marks)
-		

		1
 		The state of the s

6.	The s	sum of an arithmetic series is	
		$\sum_{r=1}^{n} (80-3r)$	
	(a)	Write down the first two terms of the series.	(2)
	(b)	Find the common difference of the series.	(1)
	Give	en that <i>n</i> = 50,	
	(c)	find the sum of the series.	(3) Total 6 marks)
	WA Senden di di de describe de senere se		
	00-10-14-14-14-14-14-14-14-14-14-14-14-14-14-		
	······································		

<u> </u>			
to the state of th			
		4	
M			

9. <u>Differentiation</u>

HOMEWORK MARK	SUBMISSION DATE	TARGET GRADE	HOMEWORK GRADE
	in which you feel you h	by student) ave strengths and those in white in the second second with reference to	
STRENG	STHS	AREAS FOR IMI	PROVEMENT
SECTION C: TUTOR FEED	BACK		
STRENG	STHS	AREAS FOR IMI	PROVEMENT

1.	Given that $y = x^4 + x^{\frac{1}{3}} + 3$, fin	$\frac{dy}{dx}$.	
		u.	(Total 3 marks)
			71

2.	Given that		
		2 2 2	
		$y = 8x^3 - 4\sqrt{x} + \frac{3x^2 + 2}{x}, \ x > 0$	
	find $\frac{\mathrm{d}y}{\mathrm{d}x}$.		
	$\mathrm{d}x$		Takal Cuanda)
			(Total 6 marks)

3.	Given tha	at $\frac{2x^2 - x^{\frac{3}{2}}}{\sqrt{x}}$, can be written in the form $2x^p - x$; ^q ,
	(a) wr	ite down the value of p and the value of q .	

(2)

Given that
$$y = 5x^2 - 3 + \frac{2x^2 - x^{\frac{3}{2}}}{\sqrt{x}}$$
,

(b) find $\frac{dy}{dx}$, simplifying the coefficient of each term.

(*)
(Total 6 marks)
(Total o marks)
·····
······

4. The curve C has equation

$$y = \frac{(x+3)(x-8)}{x}, x > 0$$

(a) Find $\frac{dy}{dx}$ in its simplest form.

(4)

(b)	Find an equation of the tangent to C at the point where $x = 2$	
		(4) (Total 8 marks)

		y 2

***************************************		All (III)

•	

5.	The curve C has equation		
		$y = x^3 - 2x^2 - x + 9$, $x > 0$	
	The	point <i>P</i> has coordinates (2, 7).	
	(a)	Show that P lies on C.	(1)
	(b)	Find the equation of the tangent to C at P , giving your answer in the form $y = mx + c$, where m and c are constants.	/ E\
			(5)
	The p	point Q also lies on C.	
	Give	n that the tangent to C at Q is perpendicular to the tangent to C at P ,	
	(c)	show that the x-coordinate of Q is $\frac{1}{3}(2+\sqrt{6})$.	
		(Total 11 ma	(5) arks)
············		·	

10. <u>Integration</u>

HOMEWORK MARK	SUBMISSION DATE	TARGET GRADE	HOMEWORK
			HOMEWORK GRAD
SECTION B: SELF ASSESSM Please identify the areas in	AENT (A. L.		
Please identify the areas in improve. Provide evidence homework.	n which you feel you have e to support yourself assi	y student) e strengths and those in whic essment with reference to th	th you need to e content of your
STRENGT		AREAS FOR IMPR	
CTION C: TUTOR FEEDBAC	: K		
CERTAL	S	AREAS FOR IMPROV	/EMENT
STRENGTH			
SIKENGIH			
SI KENG [H			
3) KENG [H			
SIKENGIK			
SIRENGIA			
SIRENGIA			
SIRENGIA			

1. Find

	1	
$\int (8x^3$	$+6x^2$	-5)dx

giving each term in its simplest form.	(Total 4 marks)

2.	Find $\int (3x^2 + 4x^5 - 7) dx$.	
		(Total 4 marks)

-		

	$\frac{\mathrm{d}y}{\mathrm{d}x} = 5x^{-\frac{1}{2}} + x\sqrt{x},$	x > 0	
en that $y = 35$ at $x = 4$, fin	dy in terms of x , giving e	ach term in its simplest f	orm. (Total 7 marks)
			Contract Con
	1 		

	en that $y = 35$ at $x = 4$, fin		$\frac{dy}{dx} = 5x^{-\frac{1}{2}} + x\sqrt{x}, \qquad x > 0$ en that $y = 35$ at $x = 4$, find y in terms of x , giving each term in its simplest f

4.	A curve has equation $y = \tau(x)$ and passes through the point (4, 22).	
	Given that	
	$f'(x) = 3x^2 - 3x^{\frac{1}{2}} - 7,$	
	use integration to find $f(x)$, giving each term in its simplest form.	(Total 5 marks)

nector territor to reconstitution		
<u></u>		



5.	The	curve C has equation $y = f(x), x > 0$, where	
		$\frac{\mathrm{d}y}{\mathrm{d}x} = 3x - \frac{5}{\sqrt{x}} - 2$	
	Give	en that the point P (4, 5) lies on C , find	
	(a)	f(x),	(5)
	(b)	an equation of the tangent to C at the point P , giving your answer in the $ax + by + c = 0$, where a , b and c are integers.	e form
			(Total 9 marks)
			
	······································		

345-54-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4			
······			

***************************************	······································		
			MARKET STATE OF THE STATE OF TH

6.	The	curve C has equation $y = f(x)$, $x > 0$, and $f'(x) = 4x - 6\sqrt{x} + \frac{8}{x^2}$.	
	Give	In that the point $P(4, 1)$ lies on C ,	
	(a)	find $f(x)$ ands simplify your answer.	(6)
	(b)	Find an equation of the normal to $\it C$ at the point $\it P$ (4, 1).	(4) (Total 10 marks)

	MAXAMANA (1992-1993)

***************************************	·
·	

Topic: Partial Fractions

1. Express $f(x)$ in partial fractions when $f(x) = \frac{2x-1}{(x-1)(2x-3)}$	(3)
	denciones and policy part out from the contract of the contrac
	tennamen aderrari omen er va attra datir de 1977 (inicialette e
2. Express $\frac{3x+2}{x^2-2x-24}$ in partial fractions	(4)
	regade descriptions de services de seguina de services
	Section of the Set of the Advance recommended the section of the Set of the S
3. Find the values of the constants, A , B , and C in the identity $3x^2 + 17x - 32 = A(x-1)(x+3) + B(x-1)(x-4) + C(x+3)(x-4)$	(4)
	ander/ANJ/hand socrate enter draft and roll-diliges rommittee
	G ESTABLICATION OF THE BEST OF THE STATE OF
	терінуу үч мерекатараатын керек көпкөл каналын керектерін көпкөл

Express in partial fractions	x(x-1)(x-4)	(4)
те СП — 1 d 2 (1) то по		ментемия и при на при на при
The contract of the contract o		n «Максилания» (почен выполнения меня на выстройнения выполнения со известивного быта повыму не не «Моску» (не
HPOPPH MEMORIAN CONTROL		писиченнями при при при при при при при при при пр
		oordaassan
HERMITIANDE OF THE HERMITIANDON HAS TO TO A STATE OF THE PARTY OF THE		этэмгэн хүн уусын ас эмбэг Лавин нэг хэмэг хэмэг хэн хэргэг хэн
MP/ADD DIRECTION OF A COLUMN TO A PROCESS COLUMN ASSOCIATION AND A COLUMN ASSOCIATION ASSOCIATIONI ASSOCIATION ASSOCIATION ASSOCIATION ASSOCIATION ASSOCIATION ASS		ter en month i reference men en indexente monen er red hi den formishe de i i sodraza ette e rithe retenuna tatamentik e
треничей онтостору дочны, повретя мовет мотерительной подоставления в преставления в подоставления в подоставл		y jence av zich Mentifelik-transcorreige Nick Holdsbereit jeldt in den jölden och til star jälligkönnen fragsunnark an besindere saagd jelder.
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	(3
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	
Find the value of A, B and	C when, $2 - 9x = A(2x - 1)^2 + B(x - 3)(2x - 1) + C(x - 3)$	

Express $\frac{9x^2-2x-12}{x(x+3)(x-2)}$ in partial fractions	(4
	чатурго (оброживания на нем чения межденного бългания и отнет урганизация от применя на положения положения и отнети на положения на положения в положения
	uszanię do "Przez ważneść chroko klasi sar po podoco ko kulu obno "Karken" odojim rok (Adoresia i roku 2004) do pod kry (Adultura wadow) klasi (Smi
	aanut ju equaen goodeelaan oo
	monthy of prices in the contract and the
Figuress 13-3x ² in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	
Express $\frac{13-3x^2}{(2x+3)(x-1)^2}$ in partial fractions	

