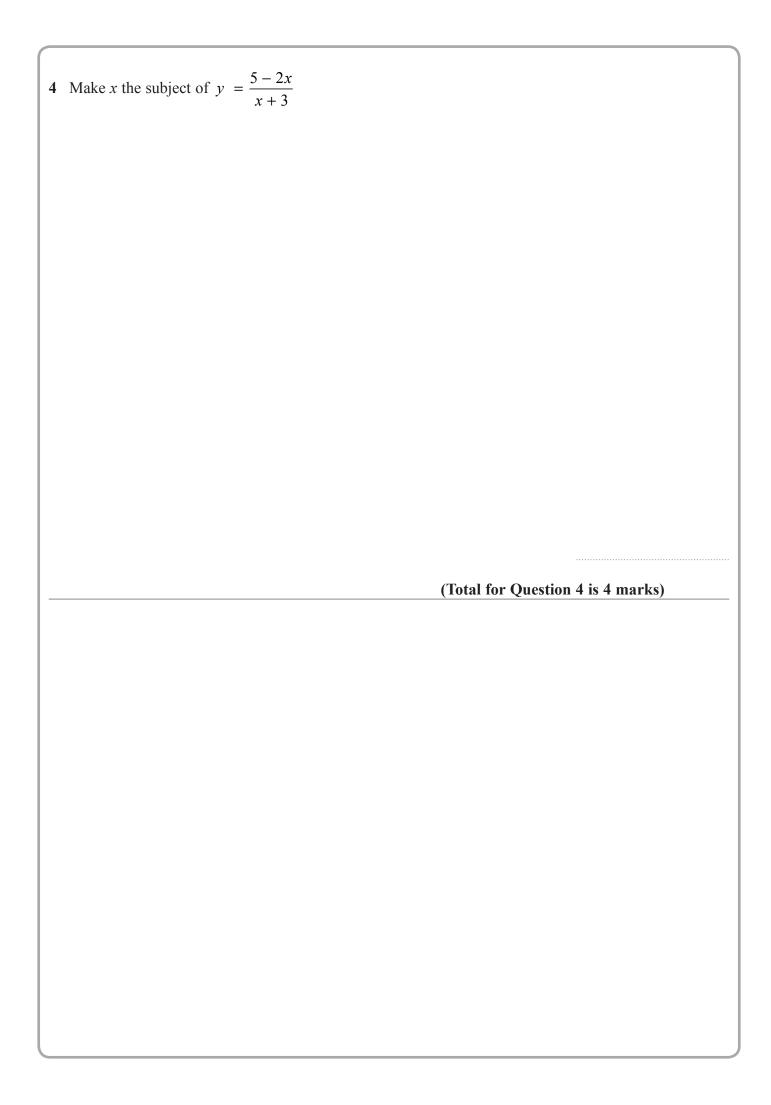
1 (a) Factorise $6y^2 - y - 5$	
(b) Make $f$ the subject of $w = \frac{2f+3}{8-f}$	(2)
(c) Express $4x^2 - 8x + 7$ in the form $a(x + b)^2 + c$ where $a, b$ and $c$ are integrated as $a(x + b)^2 + c$ where $a, b$ and $a(x + b)^2 + c$ where $a(x +$	(3) egers.
	(3)
(Total for Questi	on 1 is 8 marks)

2	Make $x$ the subject of the formula $y = x$	$= \sqrt{\frac{3x-2}{x+1}}$		
_			(Total for Question 2 is 4 marks)	

3	
	Make x the subject of $y = \sqrt{\frac{x+1}{x-4}}$
	whate x the subject of $y - \sqrt{x-4}$
	(Total for Question 3 is 4 marks)



_		9a - 7	3a - 7	
5	(a) Solve		4	= 4.55

Show clear algebraic working.



(b) Make c the subject of the formula  $p = \sqrt{\frac{ac + 8}{3 + c}}$ 

(4)

(Total for Question 5 is 7 marks)

6 
$$a = \frac{14}{3x - 7}$$
  $x = \frac{7}{4y - 3}$ 

Express a in the form  $\frac{py+q}{ry+s}$  where p, q, r and s are integers.

Give your answer in its simplest form.

a =

(Total for Question 6 is 3 marks)

7	Given that $x = \frac{5}{9y + 5}$ and that $y = \frac{5}{5a - 2}$	
	find an expression for <i>x</i> in terms of <i>a</i> . Give your expression as a single fraction in its simplest form.	
	(Total for Question 7 is 4 marks)	
	(Total for Question 7 is 4 marks)	



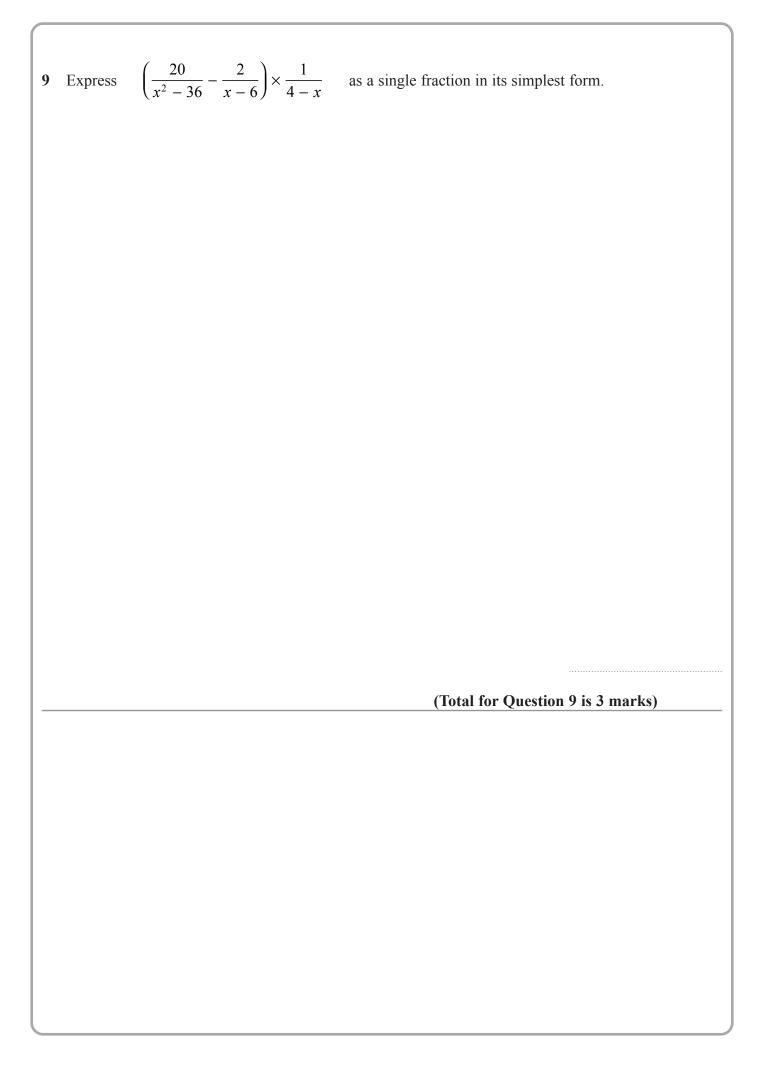
Simplify fully  $\frac{6x^3 + 13x^2 - 5x}{4x^2 - 25}$ 

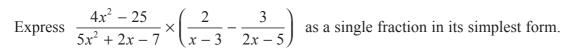
(3)

(b)

Show that  $\frac{3x+6}{x^2-3x-10} \div \frac{x+5}{x^3-25x}$  simplifies to ax where a is an integer.

(4)





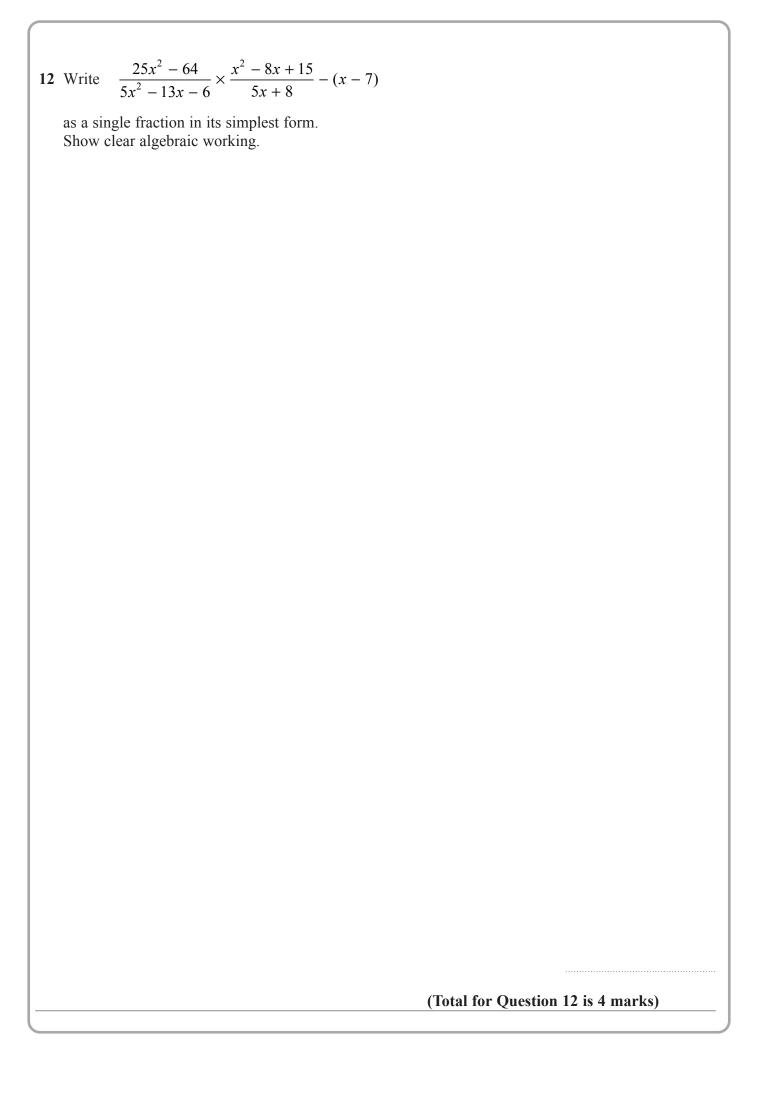
(Total for Question 10 is 4 marks)



$$\left(\frac{4}{2x-5} - \frac{3}{2x-3}\right) \div \frac{9x-4x^3}{6x^2 - 17x + 5}$$

as a single fraction in its simplest form.

(Total for Question 11 is 4 marks)



1	2
	1

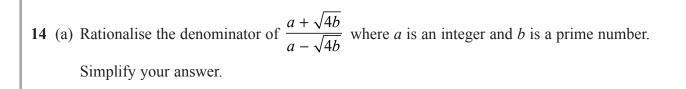
(a) Simplify fully  $\frac{10x^2 + 23x + 12}{4x^2 - 9}$ 

$$2^{2y} \times 2^{3y+2} = \frac{8^{5y}}{4^n}$$

(b) Find an expression for *n* in terms of *y*. Show clear algebraic working and simplify your expression.

(4)

(Total for Question 13 is 7 marks)



(b) Given that 
$$\left(\sqrt{\frac{y}{x}}\right)^{-5} = \frac{x^m}{y^m}$$
 where  $x \neq y$ 

find the value of m.

$$m =$$
 (1)

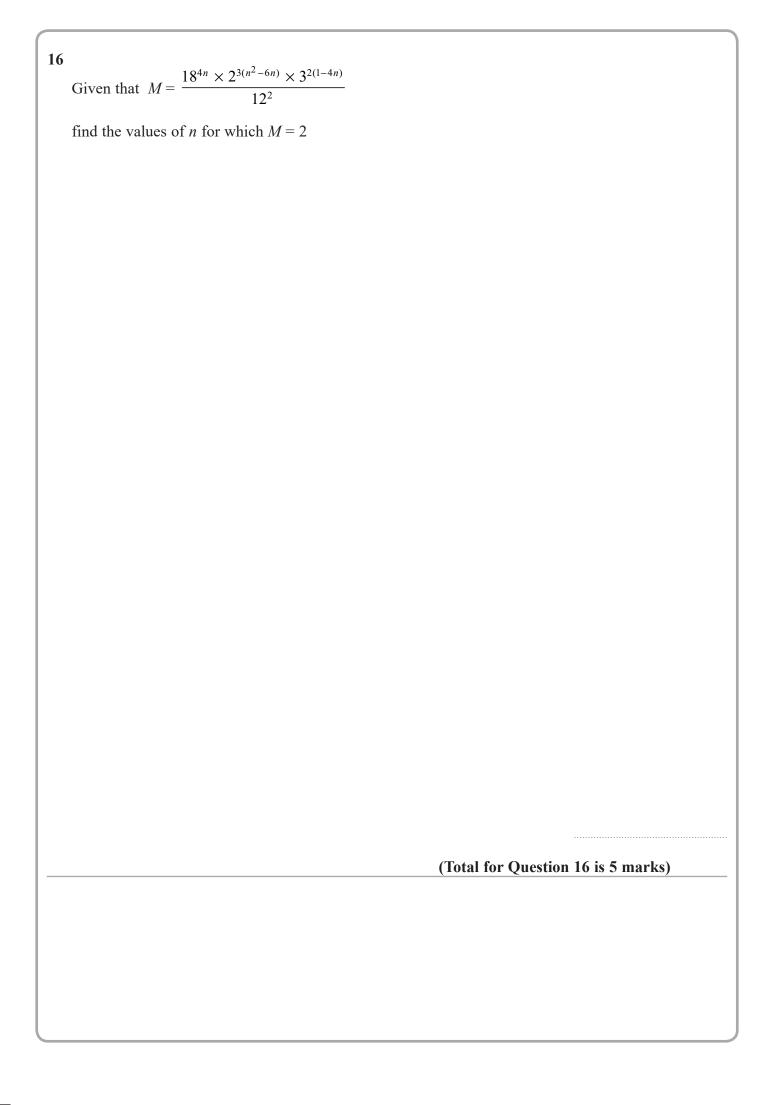
(Total for Question 14 is 4 marks)

1	5

$$\frac{18 \times \left(\sqrt{27}\right)^{4n+6}}{6 \times 9^{2n+8}} = 3^x$$

Express x in terms of nShow your working clearly and simplify your expression.

(Total for Question 15 is 3 marks)



q+1	$2x - qx^2$
can be written as $a - b(x - c)^2$	
	<i>a</i> =
	<i>b</i> =
	c =
	(Total for Question 17 is 4 marks)
	(10tai 101 Question 17 is 7 ind Rs)