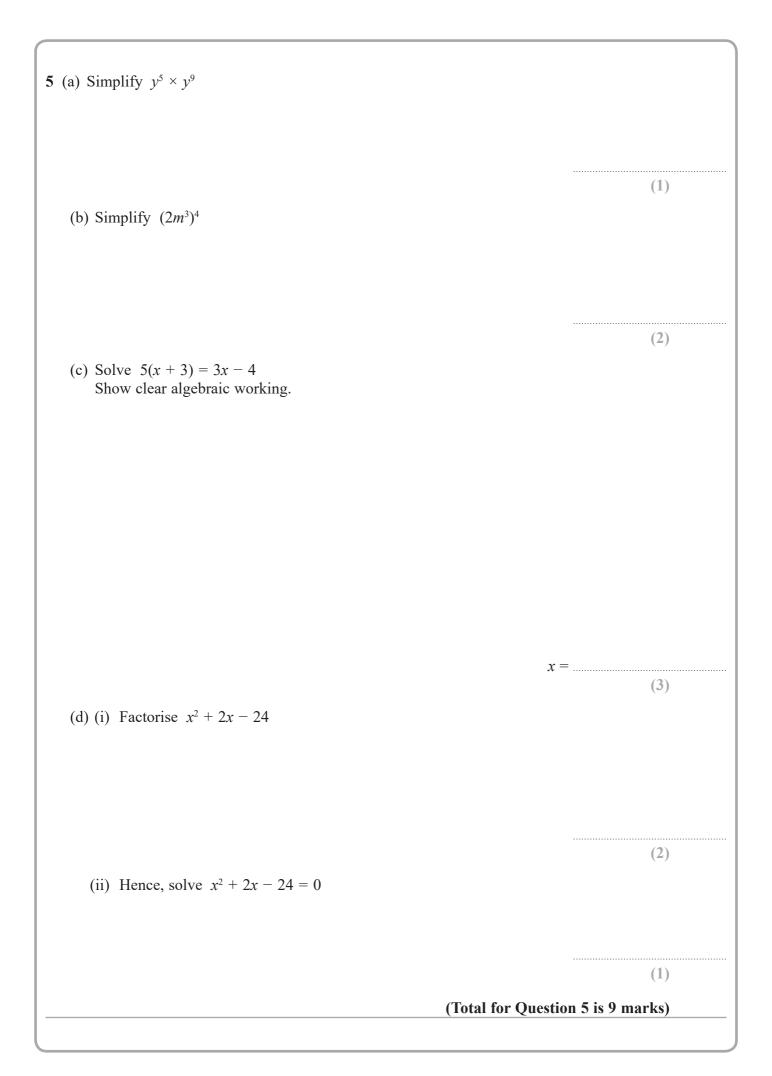
(a) Simplify $c \times c \times c \times c \times c \times c \times c$	
	(1)
(b) Simplify $2h^3 + 5h^3 - h^3$	
	(1)
(c) Expand $x(x+5)$	
	(1)
(d) Factorise $9y - 12$	
	(1)
Rosanna sells m small bags of marbles and p large bags of marbles.	
Each small bag contains 15 marbles. Each large bag contains 40 marbles.	
The total number of marbles that Rosanna sells is T	
(e) Write down a formula for T in terms of m and p	
	(3)
(Total for Quest	ion 1 is 7 marks)

2 (a) Expand $x(10-x)$		
(b) Factorise $6y + 27$		(1)
(c) Make m the subject of the formula $h = \frac{m}{2} + 4$		(1)
		(2)
(d) Solve $7g + 3 = 2g - 5$ Show clear algebraic working.		
	<i>g</i> =	
(Total for		is 7 marks)

(a) Make a the subject of $d = g + 2ac$		
(b) Factorise fully 9ef − 12f		(2)
(c) Expand and simplify $(x + 2)(x - 5)$		(2)
		(2)
(d) Simplify fully $\frac{n^4 \times n^7}{n^5}$		
	(Total for Ouest	(2) ion 3 is 8 marks)

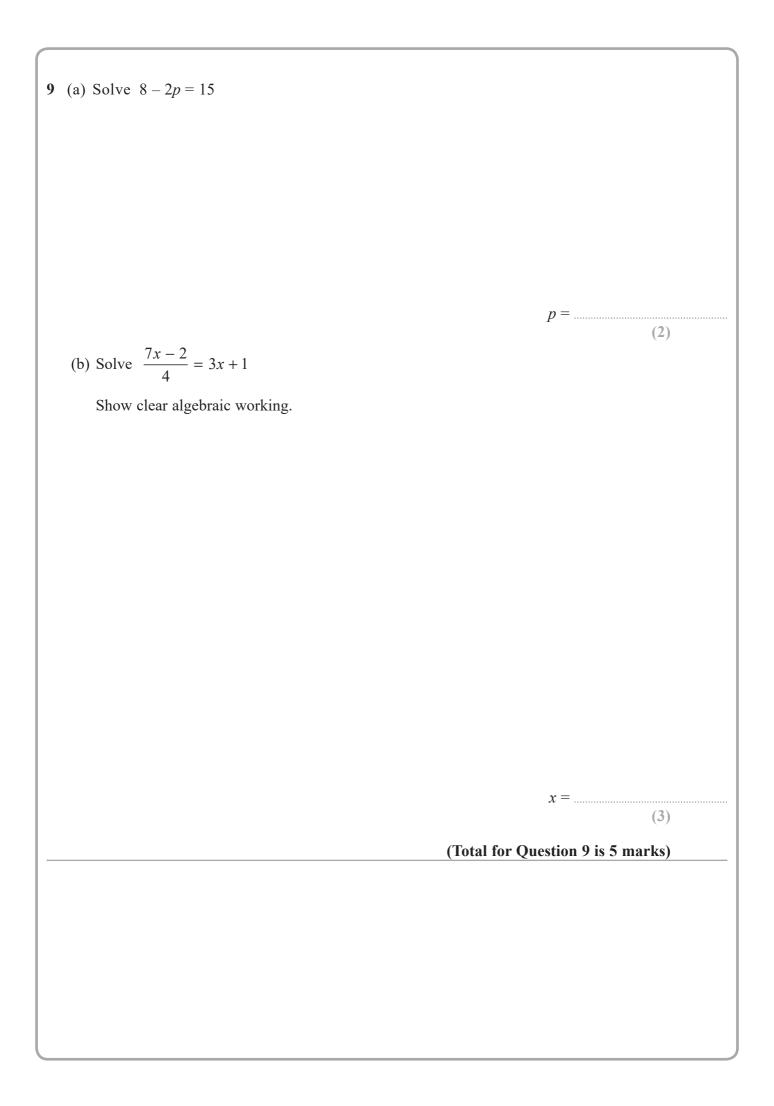
4 (a) Expand $5(3a+4)$	
(b) Factorise $4c - 14$	(1)
(c) Solve $5x - 11 = x + 6$ Show clear algebraic working.	(1)
	$x = \dots (3)$
	(Total for Question 4 is 5 marks)



6	P = 2g + 3h	
	(a) Work out the value of P when $g = 7$ and $h = -4$	
		(2)
	(b) Simplify $e^9 \div e^5$	
	(-)	
		(1)
	(c) Simplify $(y^2)^8$	
	(c) Simping (y)	
		(1)
	(d) Expand and simplify $(x + 9)(x - 2)$	
	(d) Expand and simplify $(x + y)(x - 2)$	
		(2)
	(e) Factorise fully $16c^4p^2 + 20cp^3$	
		(2)
		(Total for Question 6 is 8 marks)

7 (a) Expand $x(4-x)$	
	(1)
t = ab - c	
a = 1.5 $b = 2.4$ $c = -5.6$	
(b) Work out the value of <i>t</i> .	
	<i>t</i> =
	l = (2)
(c) Make d the subject of $y = dx - e$	
	(Total for Operation 7 is 5 marks)
	(Total for Question 7 is 5 marks)

8	(a) Simplify $a^8 \cdot a^2$	
	(a) Simplify $e^8 \div e^2$	
		(1)
	(b) Expand and simplify $(x-3)(x+1)$	
		(2)
	(Total for Question	



10 (a) Expand and simplify $3(c-7) + 2(3c+4)$		
(b) Expand and simplify $(x + 7)(x - 2)$		(2)
		(2)
(c) Factorise fully $28y^2 - 21y$		
		(2)
	(Total for Question 10 is	
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(1)

(b) Expand
$$4(2y + 3)$$

(1)

$$C = 5a + 4d$$

(c) Work out the value of C when a = -3 and d = 6

C = (2)

$$P = 3t^2 + 7t$$

(d) Work out the value of P when t = -4

P =

(2)

(Total for Question 11 is 6 marks)

12	(a)	Solve	7r +	- 3	= r _	. 18
14 ((a)	SOLVE	$/\lambda$	J	$-\lambda$	- 10

$$x =$$
 (2)

(b) Make w the subject of t = 7w + 3

(2)

Pencils cost 2 dollars each. Rulers cost 3 dollars each.

Edith buys p pencils and r rulers. The total cost is T dollars.

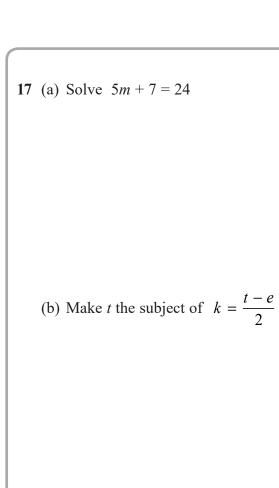
(c) Write down a formula for T in terms of p and r.

(3)

13 (a) Expand $4(m+2)$	
(1) (1) (2) (5) (10)	(1)
(b) Solve $2x + 5 = -19$	
	$\chi =$
	(2)
	(Total for Question 13 is 3 marks)
14 Solve $5(2x - 3) = 20$ Show clear algebraic working.	
	$x = \dots$
	x =

	$w = \dots$
) Factorise fully $8p^2 - 2p$	(2)
	(2)
) Expand $4t(3t-2)$	
	(2)
d) Expand and simplify $(5x-2)(x+4)$	
	(2)
	(Total for Question 15 is 8 marks)

16 (a) Solve $5c = 15$	
c = (b) Expand $x(8-x)$	(1)
T = 5m - 6n (c) Work out the value of T when $m = 4.2$ and $n = -2.5$	(1)
au	
(d) Make g the subject of $k = 2g + t$	(2)
(Total for Question	(2)
(Total for Question	TO IS U IIIZI KS)



(2)

(2)

m =

(c) Simplify $p^8 \div p^3$

(1)

(d) Simplify n^0

(1)

(e) Simplify $(3x^2y^5)^3$

(2)

(Total for Question 17 is 8 marks)

18 (a) Expand $x(5-x)$	
(b) Factorise $3y-21$	(1)
(c) Make p the subject of the formula $f = 3p - d$	(1)
Sergio buys m boxes of seeds and n packets of seeds.	(2)
Each box contains 10 seeds. Each packet contains 6 seeds.	
The total number of seeds that Sergio buys is <i>T</i> .	
(d) Write down a formula for T in terms of m and n .	
(Total for Question	(3) 18 is 7 marks)

19 (a) Factorise $25f - 10$	
(b) Make y the subject of the formula $c = 5y - h$	(1)
(c) Solve the inequality $4x + 7 > 2$	(2)
(Total for Question	(2) 19 is 5 marks)

20	T =	6 <i>p</i>	_	40
∠ U	1 -	$\omega \nu$	_	40

(a) Work out the value of T when p = 8 and d = 3

$$T =$$
 (2)

$$T = 6p - 4d$$

(b) Work out the value of p when T = -41 and d = 5

$$p =$$
 (3)

(c) Solve 4(x-3) = 7x + 15Show clear algebraic working.

$$\chi = \dots$$

(Total for Question 20 is 8 marks)

(a) Expand and simplify $(2x-3) + 7(2x+1) - 5$	
	(3)
(b) Expand and simplify $(y + 4)(2 - y)$	
	(2)
(c) Factorise fully $15b^5c - 35b^3c^9$	
	(2)

22 (a) Make a the subject of the formula $M = ac - bd$	
(b) Solve the inequality $5x - 4 < 39$	(2)
(c) Factorise fully $18e^2f^3 - 12e^3f$	(2)
	(2)
(Total for Question	(2) n 22 is 6 marks)

(a) Expand and simplify $(n-6)(n+4)$	
	(2)
(b) Solve $2x - 3 = \frac{3x - 5}{4}$	
Show clear algebraic working.	

(3)

(Total for Question 23 is 5 marks)

24 (a) Simplify $8 \times (4t)^0$		
		(1)
$x^6 \div x^{-5} = x^p$		
(b) Find the value of p		
		
	<i>p</i> –	(1)
(c) Simplify fully $(2k^2m^4)^3$		
		(2)
	(Total for Question 24 is 4	l marks)
	(Total for Question 24 is 4	1 marks)
	(Total for Question 24 is 4	4 marks)
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	(Total for Question 24 is 4	1 marks)
	(Total for Question 24 is 4	4 marks)
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	(Total for Question 24 is 4	4 marks)

25	Three tins, A , B and C , each contain buttons.			
	Tin A contains x buttons. Tin B contains 4 times the number of buttons that tin A co Tin C contains 7 fewer buttons than tin A .	ntains.		
	The total number of buttons in the three tins is 137			
	Work out the number of buttons in tin C .			
	('	Total for Question 25 is 4 marks)		
26	(a) Expand $e(3e-5)$			
		(1)		
	(b) Factorise $35 + 5f$			
		(1)		
	(c) Simplify $(4pq^2)^3$			
		(2)		
_	(Total for Question 26 is 4 marks)		

27 Solve $3(2-4x) = 5 - 8x$ Show clear algebraic working.	
	<i>x</i> =
	(Total for Question 27 is 3 marks)

28	(a)	Simplify	$h^7 \times h^2$

(1)

$$G = c^2 - 4c$$

(b) Find the value of G when c = -5

$$G =$$
 (2)

(c) Solve $\frac{5x-3}{4} = 2x + 3$ Show clear algebraic working.

$$x = \dots$$

(Total for Question 28 is 6 marks)