




COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 5 (2018)



	Marks	Actual	  
Q1. Changing the subject (Clip 25)	4		
Q2. Addition of decimals in context	4		
Q3. Changing the subject (Clip 25)	3		
Q4. Factorising / Change the subject / Expanding (Clips 22 to 25)	9		
Q5. Expand & simplify (Clip 22)	3		
Q6. Changing the subject (Clip 25)	2		
Q7. Expand & Simplify/Factorising (Clips 22, 23, and 24)	7		
Q8. Expand & Simplify/Factorising (Clips 22, 23, and 24)	3		
Q9. Addition & subtraction	3		
Q10. Expand & Simplify/Factorising (Clips 22, 23, and 24)	4		
Q11. Expand & Simplify/Factorising (Clips 22, 23, and 24)	4		
Q12. Expand & Simplify/Factorising (Clips 22, 23, and 24)	6		
Q13. Changing the subject (Clip 25)	3		
Q14. Changing the subject (Clip 25)	3		
Q15. Simplify expressions (Clip 22)	3		
Q16. Multiplication	3		
Q17. Expand & simplify (Clip 22)	7		
Q18. Changing the subject (Clip 25)	2		

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Questions

Q1. Make x the subject of the formula $y = \frac{x^2 + 9}{x^2 - 7}$

Q2. The diagram shows the distances between 4 villages C , H , S and Y on a postman's round. (4)

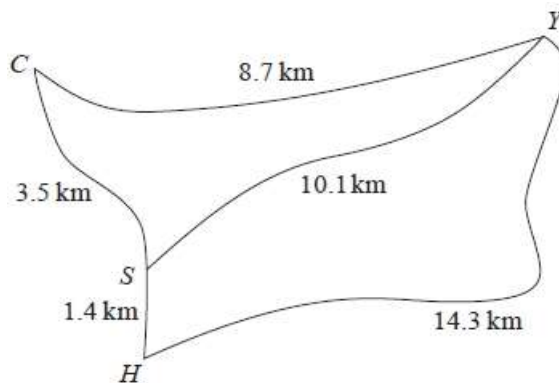


Diagram **NOT** accurately drawn

Gordon delivers letters to these 4 villages.

He starts and finishes at C .

Gordon wants to drive the shortest distance to deliver all his letters.

(i) Work out this shortest distance.

You must show all your working.

(ii) Write down Gordon's route.

Q3. Make x the subject of $4x - 3 = 2(x + y)$

Q4. (a) Factorise $3e^2 + 5e$

(b) Solve $7(k - 3) = 3k - 5$

(3)

(c) Expand and simplify $(2x + 3)(x - 8)$

(2)

(d) Solve $\frac{7-3f}{4} = 2$

(3)

Q5. (a) Simplify $d + d + d + d$

(1)

(b) Simplify $3f + 4 - 2f + 6$

(2)

Q6. Make m the subject of the formula $6m^2 = k$

(2)

Q7. (a) Simplify $3y + 2x - 4 + 5x + 7$

(1)

(b) Factorise $2x^2 - 4x$

(2)

(c) Expand and simplify $11 - 3(x + 2)$

(2)

(d) Expand and simplify $(x - 6)(3x + 7)$

(2)

Q8. (a) Expand $5(m + 2)$

(1)

(b) Factorise $y^2 + 3y$

(1)

(c) Simplify $a^5 \times a^4$

(1)

Q9. Emma keeps money in a tin.

The table shows how much money Emma put in the tin and how much money she took out of the tin in each of four weeks.

Week	Money in	Money out
1	£3.50	£2.00
2	£4.00	£6.00
3	£5.00	£0.00
4	£6.50	£3.50

Emma had £15 in the tin at the start of week 1

How much money did Emma have in the tin at the end of week 4?

(3)

Q10. (a) Expand and simplify $5(x + 7) + 3(x - 2)$

(2)

(b) Factorise completely $3a^2b + 6ab^2$

(2)

Q11. (a) Expand and simplify $(2x + 1)(x + 3)$

(2)

(b) Factorise fully $4x^2 + 8xy$

(2)

Q12. (a) Factorise $x^2 + 5x + 4$

(2)

(b) Expand and simplify $(3x - 1)(2x + 5)$

(2)

(c) Write as a single fraction

$$\frac{1}{2}x + \frac{1}{5}x - \frac{1}{3}x$$

(2)

Q13. Make t the subject of the formula

$$p = \sqrt{\frac{3t}{a}}$$

(3)

Q14. Make x the subject of the formula

$$y = \frac{3x}{x + 5}$$

(3)

Q15. (a) Simplify $r + r + r + 2r$

(1)

(b) Simplify $7 \times 2t$

(1)

(c) Simplify $6ab - 4ab$

(1)

Q16. Work out 342×24

(3)

Q17. (a) Simplify $2e + 3f - e + 4f$

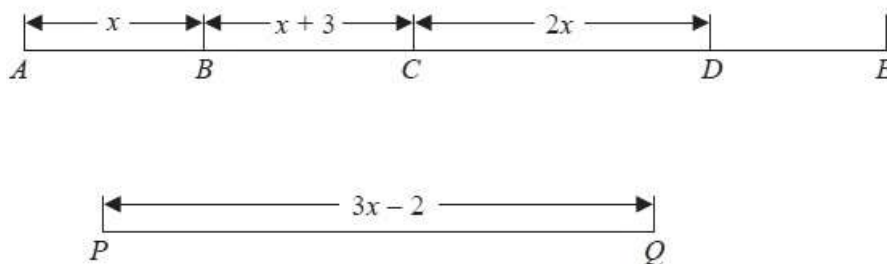
(2)

(b) Expand $5(2c + 3d)$

(1)

(c) Here are two straight lines, $ABCDE$ and PQ .

Diagrams NOT
accurately drawn



In the diagrams all the lengths are in cm.

$AE = 2PQ$.

Find an expression, in terms of x , for the length of DE .

Give your answer in its simplest form.

(4)

Q18. Make h the subject of the formula $x = 5h + 8$

(2)