

# Countdown to your final Maths exam ...

## Part 5 (2019)

	Marks	Actual	  
Q1. Solve a ratio problem (Clips 16 and 17)	4		
Q2. Substitution/ Solve linear equations	3		
Q3. Solve a problem involving ratio (Clips 16 and 17)	7		
Q4. Solve simple equations	4		
Q5. Share in a ratio (Clips 16 and 17)	3		
Q6. Solve linear equations/ Use index laws (Clip 21)	5		
Q7. Solve a ratio problem (Clips 16 and 17)	3		
Q8. Solve linear equations	5		
Q9. Solve proportion problem	3		
Q10. Solve linear equations	2		
Q11. Solve proportion problem	3		
Q12. Solve linear equations	1		
Q13. Solve ratio and percentage problem	4		
Q14. Solve linear equations/inequalities (Clip 5)	7		
Q15. Solve a ratio problem (Clips 16 and 17)	4		
Q16. Solve linear equations	6		
Q17. Solve proportion problem	4		
Q18. Solve ratio & percentage problem (Clips 16 and 17)	3		
Q19. Solve a ratio problem (Clips 16 and 17)	2		

73



Q1. A supermarket car park has 200 spaces. 10% of the spaces are for staff.

The other spaces are for disabled people, for parents and for other customers in the ratio 1 : 2 : 7

Paul is going to paint a sign for each of the spaces for staff, for disabled people and for parents. He is not going to paint signs for the spaces for other customers.

Work out the total number of spaces Paul is going to paint a sign for.



(4)

Q2.  $x = 3$

(a) Work out the value of  $4x^2$

(1)

(b) Solve  $5x + 4 = 14 + x$

(2)

Q3. Build-a-mix makes concrete.

1 cubic metre of concrete has a weight of 2400 kg.

15% of the concrete is water.

The rest of the ingredients of concrete are cement, sand and stone.

The weights of these ingredients are in the ratio 1 : 2 : 5



(a) Work out the weight of cement, of sand and of stone in 1 cubic metre of concrete.

(4)

Build-a-mix needs to make 30 cubic metres of concrete.

Build-a-mix has only got 6.5 tonnes of cement.

(b) Will this be enough cement for Build-a-mix to make 30 cubic metres of concrete?

You must show all of your working.

(3)

Q4. (a) Solve  $x - 3 = 12$

(1)

(b) Solve  $5y = 30$

(1)

(c) Solve  $2w + 7 = 13$

(2)

Q5. A pile of sand has a weight of 60 kg.

The sand is put into a small bag, a medium bag and a large bag in the ratio 2 : 3 : 7

Work out the weight of sand in each bag.

(3)

Q6. (a) Solve  $4c + 5 = 11$

(2)

(b) Solve  $5(e + 7) = 20$

(2)

(c) Simplify  $(m^3)^2$

(1)

Q7. On a farm

the number of cows and the number of sheep are in the ratio 6 : 5

the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189

How many sheep are there on the farm?



(3)

Q8. (a) Solve  $x - 5 = 13$

(1)

(b) Solve  $2n + n + n = 10$

(1)

(c) Solve  $\frac{x}{10} = 7$

(1)

(d) Solve  $5y + 6 = 18$

(2)

Q9. Harry has a cable. The cable has a length of 16 metres.

Harry cuts the cable into two parts, part *A* and part *B*.

The length of part *A* is 5 metres.

The weight of part *A* is 8 kg.

Work out the weight of part *B*.



(3)

Q10. Solve  $4x + 3 = 7 - x$

(2)

Q11. Here are the instructions for making a drink.

Add 100 ml of juice  
to 2 litres of water

Dev uses 5 litres of water to make the drink. How much drink has he made?

(3)

Q12. Solve  $5 = \frac{100}{x}$

(1)

Q13. In a company, the ratio of the number of men to the number of women is 3 : 2

40% of the men are under the age of 25

10% of the women are under the age of 25

What percentage of all the people in the company are under the age of 25?

Q14. (a) Solve  $4(y + 3) = 19$



(4)

(b) Solve the inequality  $2p - 8 > 7$

(2)

(c) Solve  $x^2 + 2x - 15 = 0$

(2)

Q15. 5 schools sent some students to a conference.

One of the schools sent both boys and girls.

This school sent 16 boys.

The ratio of the number of boys it sent to the number of girls it sent was 1 : 2

The other 4 schools sent only girls.

Each of the 5 schools sent the same number of students.

Work out the total number of students sent to the conference by these 5 schools.

(3)

(4)

Q16. (a) Solve  $3(2p - 5) = 21$

(3)

(b) Solve  $9x - 11 = 5x + 7$

(3)

Q17. 3 jars of paprika and 4 packets of sage have a total weight of 290 grams.  
7 jars of paprika have a total weight of 210 grams.

Work out the total weight of 2 jars of paprika and 2 packets of sage.



(4)

Q18. On a school trip the ratio of the number of teachers to the number of students is 1 : 15

The ratio of the number of male students to the number of female students is 7 : 5

Work out what percentage of all the people on the trip are female students.

Give your answer correct to the nearest whole number.



(3)

Q19. In a box of pens, there are

three times as many red pens as green pens  
and two times as many green pens as blue pens.



For the pens in the box, write down

the ratio of the number of red pens to the number of green pens to the number of blue pens.

(2)