The Wellington School Maths Challenge

27 November 2010

Q1. In a game, a red counter is worth 6 points, a green one is worth 7 points and a blue one 8 points. Jill has eight red counters, seven green and six blue. How many points does Jill have?

A.	**B.**	**C.**	**D.**	**E.**
141	143	145	147	149

Q2. Today is Saturday, which has 8 letters. What is the mean number of letters in the other six days? Remember to add all the numbers together and then divide by six.

A.	**B.**	**C.**	**D.**	**E.**
less than 6	6	between 6 and 7	7	more than 7

Q3. Jack travels three miles East, then two miles South, then four miles West and finally two miles North. To return to the start, Jack needs to travel:

A.	**B.**	**C.**	**D.**	**E.**
One mile East	Two miles East	One mile West	Two miles West	One mile North

Q4. I start with £40. I add ½ and then add ½ of this new value. How much do I have now?

A.	**B.**	**C.**	**D.**	**E.**
£60	£70	£80	£90	£100

Q5. Which of these does not equal 2010 ?

A.	**B.**	**C.**	**D.**	**E.**
10×201	15×134	5×402	6×335	30×70

Q6. How many right angles can a quadrilateral <u>not</u> have?

A.	**B.**	**C.**	**D.**	**E.**
0	1	2	3	4

Q7. It is midnight. What time will it be in 100 hours and 100 minutes?

A.	**B.**	**C.**	**D.**	**E.**
1.00am	5.00am	5.40am	1.40am	9.40pm

Q8. What is the difference between the area and perimeter of this rectangle?

3

9
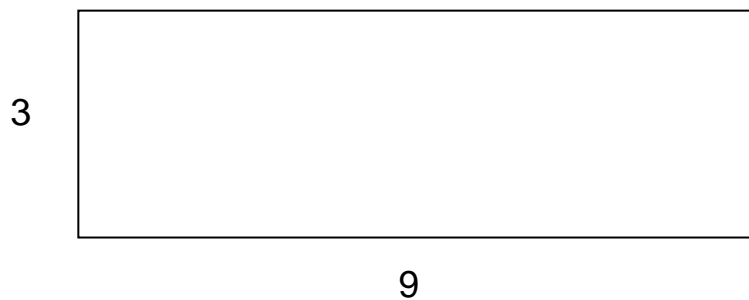
A.	**B.**	**C.**	**D.**	**E.**
3	6	9	12	15

Q9. On which day of the week will New Years Eve fall this year?

A.	**B.**	**C.**	**D.**	**E.**
Friday	Saturday	Sunday	Monday	Tuesday

Q10. Using at most three coins I can make every amount up to 17p. I cannot make 18p. What is the first amount that cannot be made using at most four coins?

A.	**B.**	**C.**	**D.**	**E.**
19p	23p	28p	29p	38p

Q11. What fraction of the numbers under 51 are prime?

A.	**B.**	**C.**	**D.**	**E.**
$\frac{3}{10}$	$\frac{7}{25}$	$\frac{8}{25}$	$\frac{17}{50}$	$\frac{2}{5}$

Q12. Continue this sequence: $207 \div 9 \quad 192 \div 8 \quad 175 \div 7 \quad 156 \div 6 \quad \ldots$

A.	**B.**	**C.**	**D.**	**E.**
$140 \div 5$	$216 \div 8$	$116 \div 4$	$182 \div 7$	$125 \div 5$

Q13. Six friends meet to play tennis. There is only one court and they all want to play singles against each other. How many matches will be played?

A.	**B.**	**C.**	**D.**	**E.**
10	12	13	14	15

Q14. The angles in a triangle always add up to 180°. I measure two angles in a triangle. Which triangle is <u>not</u> isosceles?

A.	**B.**	**C.**	**D.**	**E.**
40° 40°	70° 40°	50° 60°	20° 80°	20° 140°

Q15. Mr Payne has a special arrangement with his local shop. Every time he spends one pound, they give him 20p back. Maths Magazine costs £1. He has £25. How many copies of the magazine can he buy?

A.	**B.**	**C.**	**D.**	**E.**
25	26	28	30	31

Q16. A pentagon has five diagonals.

Pentagon
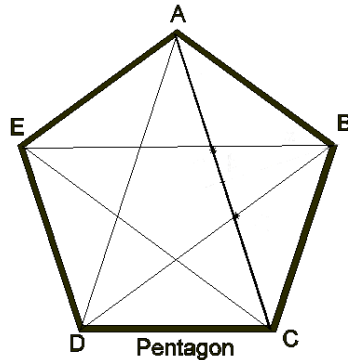
How many diagonals does a hexagon have?

A.	**B.**	**C.**	**D.**	**E.**
6	7	8	9	10

Q17. I add together all of the numbers from one to twenty. What is the answer?

A.	**B.**	**C.**	**D.**	**E.**
210	201	200	190	180

Q18. A piece of paper is 40cm long and 20cm wide. I fold the paper in half and in half again and so on. How many folds will I have made when the paper has an area of 25cm² ?

A.	**B.**	**C.**	**D.**	**E.**
4	5	6	8	12

Q19. I start with $4x+3$. I add 5 and divide by two. What is the answer?

A.	**B.**	**C.**	**D.**	**E.**
$4x+4$	$2x+8$	$2x+4$	$4x$	$4x+8$

Q20. In a game of noughts and crosses X has gone first and filled in the top left corner. Where should the first O be placed if they are going to stop X from winning?

X		
A.	**B.**	
C.	**D.**	**E.**

The following five questions are not multiple choice.
Write your answers on the answer sheet in the spaces provided.

Q21. 16 and 36 are both square numbers. They have a difference of 20.
Which two square numbers have a difference of 40?

Q22. Only one number, when spelt out, has its letters in reverse alphabetical
order. What is this number?

Q23. I roll two fair six-sided dice. I add the two scores together. What is the
most likely total score?

Q24. I start with 1 and double, then double again, and again, and keep going.
What is the first number that I get which is greater than ten thousand?

Q25. There are six horses in a race. How many different results for first,
second and third could there be?

Wellington School
Maths Challenge 2010

School Name _____

Pupils Names   _____   _____

                    _____   _____

In the spaces provided, write the one letter you think answers each question.
One mark will be awarded for each correct answer.

1. |___| 6. |___| 11. |___| 16. |___|

2. |___| 7. |___| 12. |___| 17. |___|

3. |___| 8. |___| 13. |___| 18. |___|

4. |___| 9. |___| 14. |___| 19. |___|

5. |___| 10. |___| 15. |___| 20. |___|

For the last five questions write your answers in the spaces provided.

21. |_____| |_____|

22. |_____|

23. |_____|

24. |_____|

25. |_____|

Maths Challenge 2010
Answers

Q1	C
Q2	D
Q3	A
Q4	D
Q5	E
Q6	D
Q7	C
Q8	A
Q9	A
Q10	E
Q11	A
Q12	B
Q13	E
Q14	C
Q15	E
Q16	D
Q17	A
Q18	B
Q19	C
Q20	B
Q21	9 & 49 81 & 121
Q22	one
Q23	7
Q24	16384
Q25	120