

# St Paul's Girls' School: 11+ Maths Sample Paper 2 (2017)

**School:** St Paul's Girls' School

**Subject:** Maths

**Level:** 11+

**Time:** 75 mins total (25 mins for each section)

**Type:** Sample Paper 2

**Year in use:** 2017



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## Section A

Q.	Answer
1.	158
2.	22
3.	3586
4.	1.023 , 1.032 , 1.2 , 1.203 , 1.23 , 1.302 , 1.32
5.	08:19
6.	6.51 , 7.49 , 6.9



7. 19, 23, 27  
31, 28, 26  
16, 32, 64

8. 68%

9. 5.7

10. 38 packs

11. 11

12.  $7 \times 18 = 25$   
 $25 \times 3 = 75$

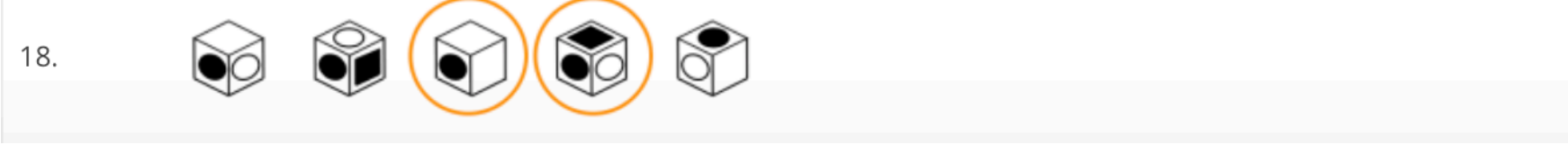
13. 12

14. 14

15. 84

16. 15

17. 12 (m)



## Section B

Q.	Answer
1.	25 (pupils)
2.	64 (posts)
3.	(£) 48
4.	4 (m)
5.	C: Different D: Same E: Same
6.	(£) 6
7.	(a) 11 a.m. (b) 13:35
8.	(a) $\frac{7}{24}$ (b) 2500 (cm <sup>2</sup> ) (c) 17500 (cm <sup>2</sup> )
9.	(a) $44448889 = 6667 \times 6667$ (b) 44444444448888888889 (c) 666666667



- 10. 51 aliens
- 11. (a) 2127 (feet)  
(b) 7 chains 3 yards 1 foot
- 12. 16 blocks

## Section C

**Q. Answer**

1.

Medal	France	Italy	Japan	Total
Gold	7	8	9	24
Silver	16	9	6	31
Bronze	18	10	10	38
<b>Total</b>	<b>41</b>	27	<b>25</b>	<b>93</b>

2.

The diagram shows how 4 T-tetrominoes can be arranged to form a perfect square.

A rectangle with dimensions  $4a \times 4b$  has length  $4a$  which is divisible by 4, and width  $4b$  which is also divisible by 4. Hence the rectangle can be fully covered by T-tetrominoes exactly without gaps or overlaps.

- 3.
- (a) 6 days
  - (b) 36 days
  - (c) 12 days
  - (d)  $18/5$  days
  - (e)  $6x/10$  or  $3x/5$  days
  - (f)  $6x/y$  days

- 4.
- (a) 64 , 256 , 1024 , 4096 , 16384  
Numbers NOT in the sequence: a. 23468 , b. 12986 , c. 23232 , e. 98340  
The next two terms in the sequence are 65536 and 262144. Therefore, the number for a, b and c are too small for the 4th term, and e is too small for the 5th term.
- (b) 6 , 12 , 24 , 48 , 96  
Numbers NOT in the sequence: b. 64790 and e. 34921  
Reason: The numbers in the sequence must be an even number, that eliminates (e) which is an odd number. Also, the numbers in the sequence must be divisible by 3. All the rest of the numbers are divisible by 3 except (b). Hence (b) is also eliminated.

- 5.
- (a) 11
  - (b) 22
  - (c) 192
  - (d) 2893



(a)

Number of rows	Number of columns	Number of white tiles	Number of black tiles
4	5	14	6
4	6	16	8
8	12	36	60
3	7	16	5

6.

(b) 24 white tiles

Number of black tiles	Number of rows	Number of columns	Number of white tiles
24	1	24	54
24	2	12	32
24	3	8	26
24	4	6	24
24	6	4	24
24	8	3	26
24	12	2	32
24	24	1	54

7.

10 ways