

PRIMARY SCHOOL  
CHALLENGE 2016

**LEVEL 1 CHALLENGE**  
**GRADE 4 AND 5 ROUND TWO**

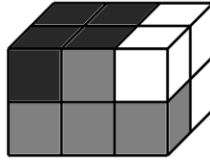
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**INSTRUCTIONS**

1. The time allocated for this paper is  $1\frac{1}{2}$  hours.  
All participants must remain for the full allocated time.  
Under no circumstances may extra time be given.
2. This paper consists of two sections.  
Section A consists of 15 multiple choice questions.  
Section B consists of 5 questions where working out must be shown.
3. Question 1 – 15 are worth 2 marks each.  
Question 16 – 20 are worth 4 marks each.
4. Negative marking will not be applied.
5. Calculators (and other calculating devices) and geometry instruments are not allowed.
6. Figures are not necessarily drawn to scale.
7. Answer all questions on the answer sheet provided.
8. Circle the letter you have chosen as your answer in pen for Section A (questions 1 – 15).  
Should you wish to change an answer, put a cross over the letter and then circle your new chosen letter.
9. For Section B (questions 16 – 20), full working must be shown in the space provided.  
Your final answer must be written in the allocated space.
10. Paper may be used for rough working.



6. A rectangular wooden prism is made up of three pieces, each consisting of four cubes of wood glued together. Which of the pieces below has the same shape as the black piece?



- (A) (B) (C) (D) (E)
7. Nine children are standing equally spaced out in a straight line. The distance from the first to the third child is 6 metres. How far is it from the first to the ninth child?
- (A) 18 m      (B) 54 m      (C) 27 m      (D) 24 m      (E) 16 m
8. What is the smallest change that must happen to 688 to reach a multiple of 6?
- (A) add 3      (B) subtract 4      (C) add 2      (D) subtract 1      (E) multiply by 2
9. A group of four people, when asked the time, gave these different answers:
- Jan said it was “3 minutes past 10”.
- Kit said it was “3 minutes to 10”.
- Nicky said it was “6 minutes to 10”.
- Terry said it was “2 minutes past 10”.
- They were all supposed to be telling the same time. They were all wrong. Their errors (in no particular order) were 2, 3, 4 and 5 minutes.
- What was the correct time?
- (A) 1 minute past 10      (B) 6 minutes to 10      (C) 1 minute to 10      (D) 10 o’ clock      (E) 5 minutes past 10
10. Bernie is working on a string art project. He knocks 7 nails into a board. He wants to connect every nail to every other nail using a piece of string. How many pieces of string does he need?
- (A) 18      (B) 21      (C) 14      (D) 15      (E) 42
11. A group of less than 40 pupils are playing group games. If they are divided into 5 groups, there are 2 children left out. If they are divided into 6 groups, 3 children are left out. How many children are in the group?
- (A) 17      (B) 22      (C) 33      (D) 27      (E) 39

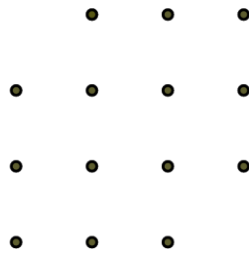


**SECTION B**

16. In the addition shown, P and Q each represent single digits, and the sum is 1PP7. What is P + Q?

$$\begin{array}{r}
 \phantom{+} \phantom{1} \phantom{P} \phantom{P} \phantom{7} \\
 \phantom{+} \phantom{1} \phantom{P} \phantom{P} \phantom{7} \\
 + \phantom{1} \phantom{P} \phantom{P} \phantom{7} \\
 \hline
 1 \phantom{P} \phantom{P} \phantom{7}
 \end{array}$$

17. Angie has R12,60 in 20 cents and 50 cents coins. She has 39 coins altogether. How many of each coin does she have?
18. The top left and bottom right corners of an equally spaced  $4 \times 4$  arrangement have been removed as shown in the diagram below. Determine the number of different squares that can be formed using the 14 dots.



19. Mandy and Flora are good friends. When Mandy got the flu, her doctor wrote a prescription for twenty 30mg pills, and told her to take two a day, one after breakfast and one after dinner. Three days later, Flora also got the flu. Her doctor prescribed thirty 20mg pills, and told her to take a pill every four hours between 09:00 and 21:00. Whose medicine was finished first?
20. A special game of chess only uses queens. What is the minimum number of queens needed to threaten every block on the  $5 \times 5$  chess board below? (Remember that a queen can attack vertical, horizontally and diagonally).

