Primary 2

Time allowed: 120 minutes

Question Paper

Instructions to Contestants:

1. Each contestant should have ONE Question-Answer Book which CANNOT be taken away.

2. There are 5 exam areas and 6 questions in each exam area. There are a total of 30 questions in this Question-Answer Book. Each question carries 5 marks. Total score is 150 marks. No points are deducted for incorrect answers.

3. All answers should be written on ANSWER SHEET.

4. NO calculators can be used during the contest.

5. All figures in the paper are not necessarily drawn to scale.

6. Write down the answer in the simplest form. If the calculation result is a fraction, please write down the answer as a proper or mixed fraction, decimal figure is also accepted. Marks will NOT be given for incorrect unit.

7. This Question-Answer Book will be collected at the end of the contest.

DO NOT turn over this Question-Answer Book without approval of the examiner.

Otherwise, contestant may be DISQUALIFIED.

All answers should be written on the ANSWER SHEET.

Open-Ended Questions (1st ~30th) (5 points for correct answer, no penalty point for wrong answer)

Logical Thinking

1.   Chris is 13 years old now and Andy will be 28 years old 3 years later. What is the difference between their age this year?

2.   Edward is now playing "Clapping Game". When he needs to call any multiples of 3, he has to clap hands once instead of calling them out. Now the game starts from 2 in an ascending order. After clapping 20 times, what will the next number be?

3.   Some children form a line. There are 11 children in front of Amy and 13 children behind Amy. How many child(ren) is / are there?

4.   3rd April 2021 is Saturday. Which day of the week is 7th Feb this year?

5.   According to the pattern shown below, what is the English letter in the space provided?

R 、 P 、 M 、 ___ 、 ….

6.   According to the pattern shown below, how many   *   is / are there in the 15th group?

1st Group   2nd Group   3rd Group

Question 6

Arithmetic

7. Find the value of $27+35+14+33+42+16+38$.

8. If A and B are both 1-digit numbers, what is the value of $B-A$ if the equation with carrying is correct?

$$
\begin{array}{r}
A \\
+\quad A\quad B \\
\hline
4\quad 1
\end{array}
$$

Question 8

9. Find the value of $7\times18+21\times4+28\times5$.

10. Find the value of $1-2+1+3-4+5-6+7-8+...+49-50+51-52+53$.

11. Find the value of $13\div3+8\div3+19\div3-2\div3-2\div3$.

12. What is the number that should be filled in the blank if the equation below is correct?

$$32\times\underline{\quad\quad}=224$$

Number Theory

13. The numbers below follow the arithmetic sequence, what is the 16th number?

$$246、\ 239、\ 232、\ 225、\ 218、\ …$$

14. Fill the lines with ' + ' and ' – ' to make the equation below correct. (Write down the complete equation on the answer sheet)

$$18\ \underline{\quad\quad}\ 7\ \underline{\quad\quad}\ 9\ \underline{\quad\quad}\ 4=16$$

15. If A is an odd number, determine whether the result of $A\times(A+3+3\times A+4)$ is an odd or even number.

16. In a math test, 11 students have an odd number of scores in total. The first 5 children have an odd number of scores and another 5 children have an even number of scores. Does the last student have an odd or even number of scores?

17. How many 2-digit even number(s) that is / are multiples of 6 is / are there?

18. Find the largest 4-digit odd number that is divisible by 7 without repeated digits.

All answers should be written on the ANSWER SHEET.

Geometry

19. How many square(s) is / are there in the figure below?
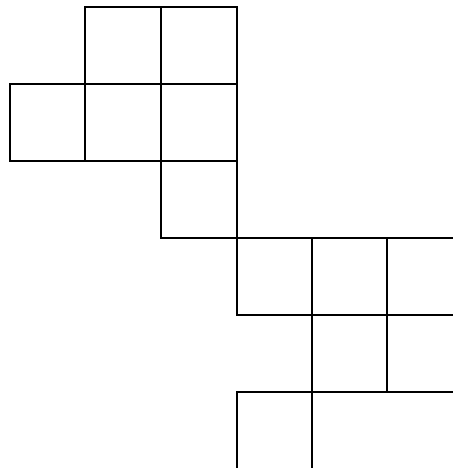
Question 19

20. It is known that the lengths of two sides for a triangle are 7cm and 8cm respectively and all lengths are integers. Find the maximum length of the other length.

21. A pyramid has 54 edges, how many face(s) does this pyramid have?

22. At least how many squares can be seen if viewing the figure below from the right?
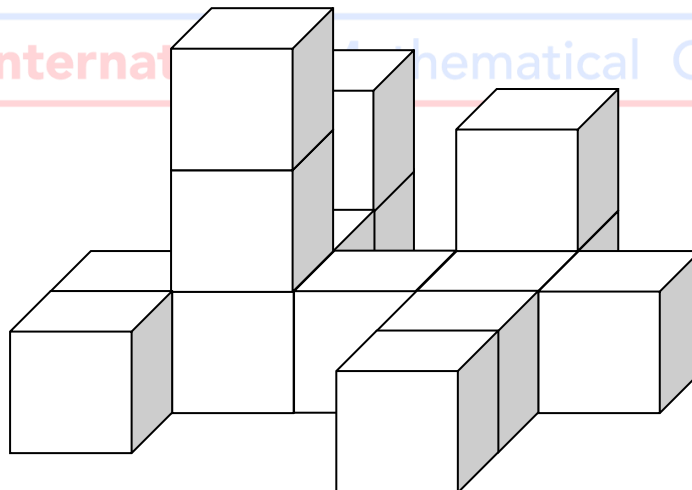
Question 22

23. A polygon is formed by 3 squares. At most how many sides does this polygon have?

24. According to the pattern shown below, what is the figure in the space provided?

●▲▦●▨●▲▦●▨●▲▦●▨●▲▦__▨…

Question 24

All answers should be written on the ANSWER SHEET.

Combinatorics

25. Among the following answers, how many 1- digit number(s) is / are there?

$$7+4, \ 3\times5, \ 17-9, \ 5+8, \ 36\div6, \ 14-6, \ 3+9$$

26. Choose 2 digits, without repetition, from 3, 4, 1, 7 and 6 to form 2-digit numbers. Of these 2-digit numbers, how many of them are even numbers?

27. Choose 4 digits, without repetition, from 9, 1, 4 and 6 to form two 2-digit numbers. What is the minimum value of the difference?

28. How many 3-digit number(s) having the tens digit that is larger than 6 is / are there?

29. It is known that every digit not smaller than the previous digit in a number is called "special number". For example, 123 and 366. How many 2-digit "special number" is / are there?

30. Alice has 11 $1 coins, 13 $2 coins and 4 $5 coins and a book costs $6. If she can only buy 1 book each time and no change will be provided for each payment, at most how many book(s) can she buy?

~ End of Paper ~