SASMO
Singapore & Asian Schools Math Olympiad

SASMO 2025 Preparation
Grade: 3
Time allowed: 90 minutes
PRACTICE TEST 2

PIONEER EDUCATION

INSTRUCTIONS. Please read all the instructions below carefully.

a) **DO NOT OPEN** the contest booklet until the Proctor has given permission to start.

b) **TIME: 1 hour 30 minutes.**

c) There are 25 questions.

- **Section A:** Questions 1 to 15 score 2 points each, no points are deducted for an unanswered question and 1 point is deducted for the wrong answer.
- **Section B:** Questions 16 to 25 score 4 points each, no points are deducted for an unanswered or wrong answer.

d) Shade your answers neatly using a **2B lead pencil** in the Answer Entry Sheet.

e) **PROCTORING:** No one may help any student in any way during the contest.

f) No electronic devices capable of storing and displaying visual information are allowed during the course of the exam.

g) Strictly **No Calculators** are allowed into the exam.

h) All students must fill and shade their **Name, School and Index Number** in the Answer Entry Sheet and Contest booklet.

i) **MINIMUM TIME:** Students must stay in the exam hall for at least 1 hour.

j) **No exam papers and written notes can be taken out by any contestant.**

GOOD LUCK!

A SECTION A (CORRECT ANSWER = 2 MARKS; NO ANSWER = 0; INCORRECT ANSWER = MINUS 1 MARKS)

Question 1. Define operation symbol $a \otimes b = b \times a + a - b - 3$. Find the value of $8 \otimes 13$.

(A) 31 (B) 96 (C) 106
(D) 184 (E) None of the above

Question 2. Basket A has 54 apples. Basket B has 18 apples. Cindy moves 6 apples at a time from Basket A to Basket B. How many times must she do this so that both baskets have the same number of apples?

(A) 6 (B) 4 (C) 5 (D) 3 (E) 8

Question 3. Identify the correct shadow of the picture below.

(A) 

(B) 

(C) 

(D) 

(E) None of the above

Question 4. Find the sum of first 48 numbers in:

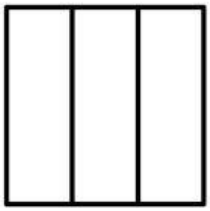
$$1, 3, 5, 7, 8, 1, 3, 5, 7, 8, 1, 3...$$

(A) 225 (B) 220 (C) 125 (D) 325 (E) 235

Question 5. Choose 3 digits from 0, 2, 6, 8, 9 to form 3-digit numbers. How many numbers that can be divisible by 5 are there? (repetitions of digits are allowed).

(A) 12 (B) 16 (C) 20
(D) 25 (E) None of the above

Question 6. In the diagram below, a square of area 81 cm^2 is made up of three small identical rectangles. What is the perimeter of one small rectangle?



(A) 44 (B) 21 (C) 22
(D) 24 (E) None of the above

Question 7. Alan is 77 years old. Karen is 37 years old. How many years ago was Alan's age 3 times Karen's age?

(A) 22 (B) 4 (C) 9
(D) 17 (E) None of the above

Question 8. One day, Alice discovered that someone had taken her shoes. There were four suspects in mind and she questioned each of them. The following were their replies:

- Tweedledum: I did not take your shoes.
- Tweedledee: White Rabbit took them!
- White Rabbit: It wasn't me!
- Mad Hatter: Either Tweedledee or Tweedledum did it!

If only the culprit was lying, who took Alice's shoes?

(A) Tweedledum (B) Tweedledee (C) White Rabbit
(D) Mad Hatter (E) None of the above

Question 9. A small zoo has a giraffe, an elephant, a lion and a bear. Lilly wants to plan a tour where she sees exactly two different animals. She does not want to start with the bear. How many different tours can she plan?

(A) 8 (B) 9 (C) 4
(D) 6 (E) None of the above

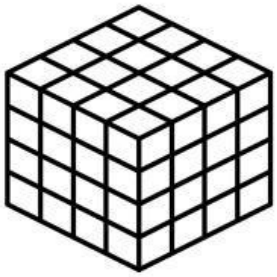
Question 10. What is the greatest 3-digit number whose sum of digits is 13?

(A) 823 (B) 1 (C) 9103
(D) 940 (E) None of the above

Question 11. Lisa and Macy shared \$500 between them. Lisa received \$238 more than her friend. How much did Macy receive?

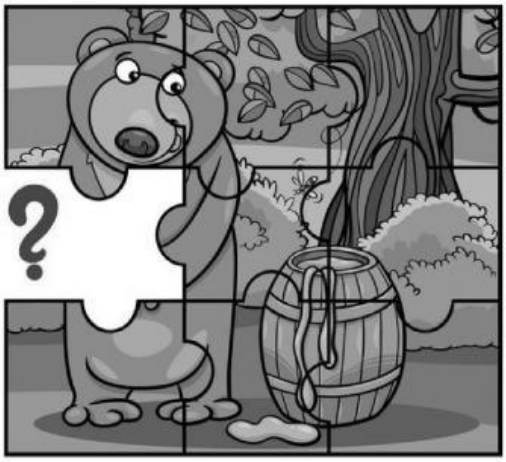
(A) 121 (B) 31 (C) 131
(D) 141 (E) None of the above

Question 12. At the right is a $4 \times 4 \times 4$ cubic block of wood. Suppose all 6 faces of the cube are painted red and the cube in then cut into $1 \times 1 \times 1$ cubes along the lines shown. How many $1 \times 1 \times 1$ cubes will have red paint on just 2 faces?



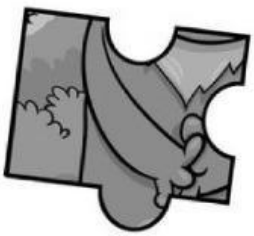
(A) 20 (B) 24 (C) 34 (D) 14 (E) Infinity

Question 13. Find the missing piece of the picture below.



(A) 

(B) 

(C) 

(D) 

(E) None of the above

Question 14. In how many ways can you write 23 as the sum of three different odd number?

(A) 8 (B) 18 (C) 6

(D) 12 (E) None of the above

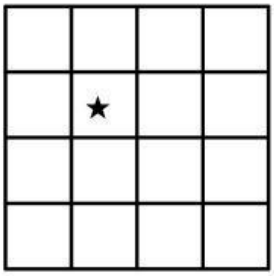
Question 15. In a straight row, 32 trees are planted at equal distance. The distance between 1^{st} and 16^{th} tree is 30 meters. What is the distance between 19^{th} and 26^{th} tree?

(A) 30 (B) 21 (C) 52

(D) 14 (E) None of the above

B SECTION B: CORRECT ANSWER = 4 MARKS; INCORRECT OR NO ANSWER = 0

Question 16. How many square containing the star are there in the figure below?



Question 17. Victor is 6 years old. His father is 38 years old. How many years' time will his father' age be 5 times Victor' age?

Question 18. There once was a child whose parents never taught him the number 7. He grew up to be a wonderful person, but would always count 1, 2, 3, 4, 5, 6, 8, 9, 10 and so on, skipping all numbers that include an 7. One day he was given the task of numbering the pages in two books. By his count, the last page of the first book is 140. Knowing what you do about this child, how many pages are actually in this book?

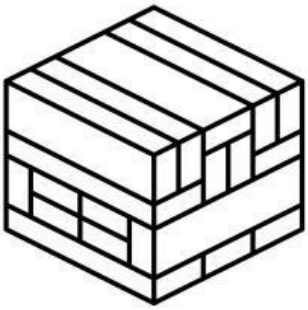
Question 19. Find the value of $41 + 42 + 43 + \ldots + 60$.

Question 20. Some students form a rectangle. Joseph is in the fourth row if we count from the front and in the seventh row if we count from the back. He is in the third column if we count from left and in the ninth column if we count from the right. How many students are there?

Question 21. 1 blue marble and 2 green marbles cost 16 cents. 1 red marble and 2 blue marbles also cost 16 cents. 1 green marble and 2 red marbles only cost 13 cents. How much does 1 green marble cost?

Question 22. Can you solve this math equation?

Question 23. The cube at the right is constructed of congruent boards, each being of the same size and shape. How many boards does the cube contain?



Question 24. If the 5 -digit number 3367 N is divisible by 15, what is the digit N?

Question 25. The sum of the 3-digit number AAA and the 2-digit number BB is the 4-digit number CD6E. A, B, C, D, and E are different digits. What 4-digit number does CD6E represent?

$$\begin{array}{cccc} & A & A & A \\ + & & B & B \\ \hline C & D & 6 & E \end{array}$$

THE END