SASMO 2025 MOCK TESTS
Grade: 6
Time allowed: 90 minutes
TEST 1

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!

LIVEWORKSHEETS

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

Question 1. Suppose it is now the month of December. What month will it be 100 calendar months from now?

(A) February. (B) April. (C) June. (D) August. (E) October.

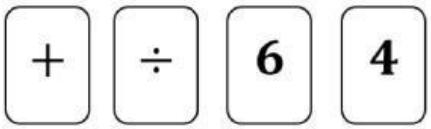
Question 2. Six machines can produce 15 items every 30 minutes. How many additional machines are needed to produce 70 items every hour?

(A) 8. (B) 10. (C) 12.
(D) 14. (E) None of the above.

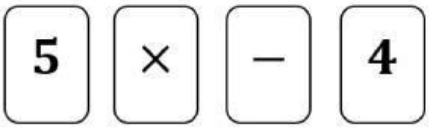
Question 3. If the product of 2025 natural numbers is an odd number, how many odd numbers are there among these 2025 numbers?

(A) 1. (B) 2. (C) 2024.
(D) 2025. (E) Impossible to determine.

Question 4. In a magic show, the magician placed 4 cards on the table, as shown below. Each card has a math symbol on one side and a number on the other side.



After showing the cards, he flipped over some (maybe all) of the cards and rearranged them. The new arrangement of the cards is shown below.



How many of these four cards have an even number on one side?

(A) 0. (B) 1. (C) 2. (D) 3. (E) 4.

Question 5. Find the largest value of M if the number $201M6$ is divisible by 9.

(A) 0. (B) 4. (C) 5. (D) 8. (E) 9.

Question 6. Bianca and Jordan went to a market to buy some food. Bianca paid \$29 for 4 muffins and 3 pies. Jordan paid \$31 for 5 muffins and 2 pies. What was the price of a muffin?

(A) \$4. (B) \$5. (C) \$6. (D) \$7. (E) \$8.

Question 7. It is given that $a \star b = a \times a + b$ for any whole numbers a and b. For example,

$$2 \star 3 = 2 \times 2 + 3 = 7.$$

What is the value of A given that $6 \star 7 = 5 \star A$?

(A) 18. (B) 20. (C) 22.
(D) 24. (E) None of the above.

LIVEWORKSHEETS

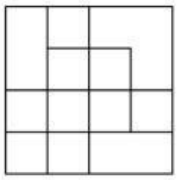
Question 8. Daniel cut a paper into half. Then he cut the papers to produce half of each of the pieces of paper. He repeated this many times until he got more than 1000 pieces of paper. What was the least number of cuts he made?

(A) 499. (B) 999. (C) 1000.
(D) 1023. (E) None of the above.

Question 9. Daniel participated in a chess tournament. There were 10 players in the tournament. Each player played once with every other player. A player received 2 points for a win, 1 point for a draw and 0 points for a loss. What is the sum of the scores of all players?

(A) 90. (B) 100. (C) 110.
(D) 120. (E) None of the above.

Question 10. How many squares are there in the figure?



(A) 15. (B) 16. (C) 17.
(D) 13. (E) None of the above.

Question 11. The year 2016 is an interesting number because it is divisible by 1, 2, 3, 4, 6, 7, 8 and 9. When is the next year that has the same properties as above?

(A) 2576. (B) 4032. (C) 3024.
(D) 2520. (E) None of the above.

Question 12. Find the next fraction in the sequence below

$$\frac{3}{4}, \frac{5}{7}, \frac{7}{10}, \frac{9}{12}, \ldots$$

(A) $\frac{5}{12}$. (B) $\frac{1}{3}$. (C) $\frac{9}{24}$.
(D) $\frac{9}{28}$. (E) None of the above.

Question 13. How many times do the hour hand and minute hand form 90° from 2pm to 10pm?

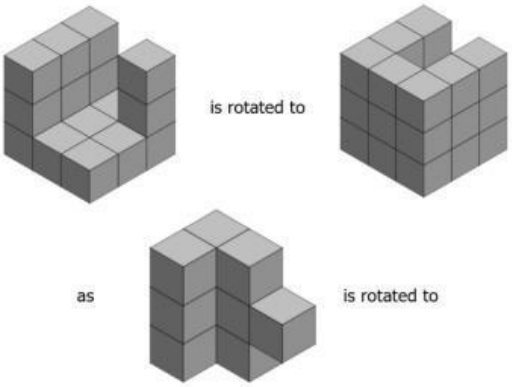
(A) 6. (B) 8. (C) 10. (D) 12. (E) 14.

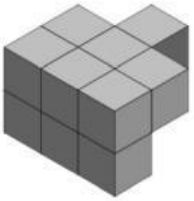
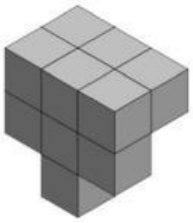
Question 14. The teacher asks Lisa to write numbers from 1 to 100. However, Lisa made a mistake by writing all the digit seven as '1' instead of '7'. In total, how many '1's did Lisa write?

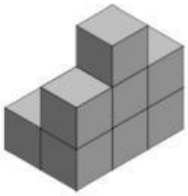
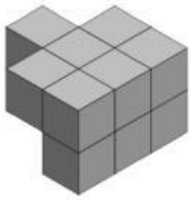
(A) 20. (B) 31. (C) 40. (D) 41. (E) 50.

Question 15.

LIVEWORKSHEETS

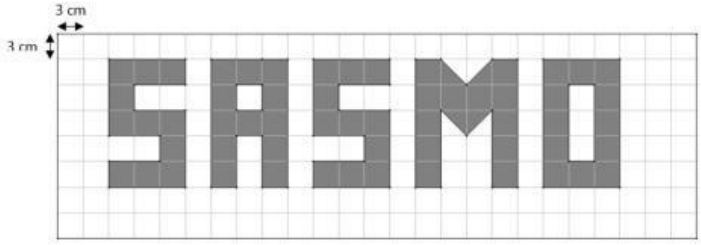


A.  B.  C. 

D.  E. 

B OPEN-ENDED QUESTIONS (5 POINTS EACH)

Question 16. In the figure below, what percentage of the grid below is shaded?



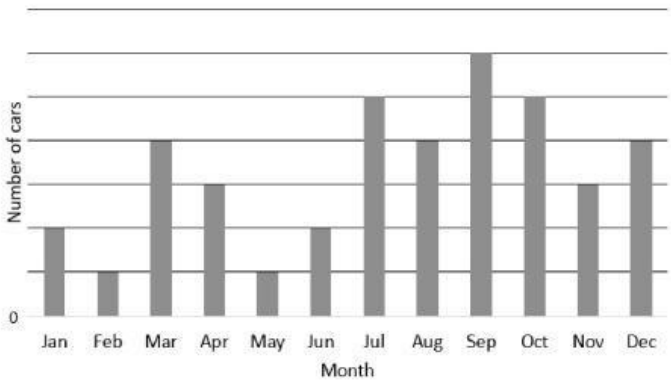
Question 17. Find the pattern and solve for x.

$$211 \leftrightarrow 6,303 \leftrightarrow 4,333 \leftrightarrow 1,404 \leftrightarrow 2,900 \leftrightarrow x.$$

Question 18. Amy had 45 fewer marbles than Cheryl. $\frac{5}{9}$ of Amy's marbles and $\frac{2}{3}$ of Cheryl's marbles were given away. The remaining number of marbles that Cheryl has, is twice the number of Amy's remaining marbles. How many marbles did Cheryl have at first?

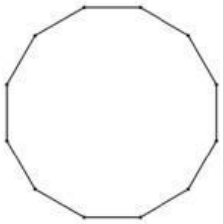
Question 19. The bar chart below shows the number of cars sold in Town A in 2015. All the horizontal lines are equally spaced. The average number of cars sold in each month is 20 cars. How many more cars were sold in the second half of the year compared to the first half of the year?

LIVEWORKSHEETS

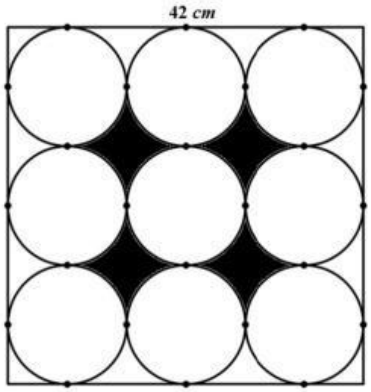


Question 20. How many two-digit square numbers can be formed by using the digits from the list 0, 1, 4, 5, 6, 9?

Question 21. The figure below shows a 12-sided regular polygon, which is called DODECAGON. How many diagonals can be drawn in it?



Question 22. Nine identical circles are inscribed in the square as shown in the diagram. Find the area of the shaded region. (Area of circle $= \pi r^2$, take $\pi = \frac{22}{7}$).



Question 23. A car took 3 hours and 41 minutes to travel from Town A to Town B and travel back from Town B to Town A. The car travelled downhill at 6 km/h (kilometres per hour), on level at 5 km/h, and uphill at only 4 km/h. The road from Town A to Town B is on level for 4 km. Find the distance between the two towns.

Question 24. The following sum

$$\frac{1}{1\times 6}+\frac{1}{6\times 11}+\frac{1}{11\times 16}+\frac{1}{16\times 21}+\cdots\frac{1}{2006\times 2011}+\frac{1}{2011\times 2016}$$

can be written as $\frac{m}{n}$, where m, n are relatively prime positive integers. Find $m+n$.

LIVEWORKSHEETS

Question 25. In the alphametic $\overline{SASMO} \times 4 = \overline{OGAMS}$, all the different letters stand for different digits. Find the 4-digit number GAMS.

THE END

LIVEWORKSHEETS