International SoM Contest 2026 Grade Four Solutions

1) **C** Regroup the numbers to make groups of 10.

$47 + 91 + 49 + 63 = 47 + 63 + 91 + 49$
$= 110 + 140$
$= 250$

2) **C** The sequence consists of perfect squares in ascending order. The next number is $5^2 = 25$.

3) **B** From the options given, 81 is divisible by 3, 9, and 27 since $81 \div 3 = 27$, $81 \div 9 = 9$, and $81 \div 27 = 3$ respectively. Therefore, 3, 9, and 27 are factors of 81. There is a remainder when 81 is divided by 6, so 6 is not a factor of 81.

4) **B** Bob has 11 crayons and Joe has $11 - 6 = 5$ crayons. Together, they have $11 + 5 = 16$ crayons.

5) **B** Six is less than nine, so the missing number must be negative. Since $9 - 3 = 6$, the answer is -3.

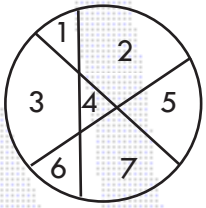
6) **D** One dozen is 12, so three dozen is $3 \times 12 = 36$. One-quarter of 36 is $36 \div 4 = 9$ flowers. Therefore, nine flowers bloomed.

7) **A** Rephrase the sentence: All of the students had pizza for lunch except seven. Therefore, seven students did not have pizza for lunch.

8) **C** The first seven prime numbers greater than 10 are 11, 13, 17, 19, 23, 29, and 31. The seventh prime number greater than 10 is 31.

9) **C** Draw the circle and the chords. Look for a pattern:

# Chords	Regions	Pattern
0	1	1
1	2	$1 + 1 = 2$
2	4	$1 + 1 + 2 = 4$
3	7	$1 + 1 + 2 + 3 = 7$



Therefore, three chords divides a circle into a maximum of seven regions.

10) **D** In this addition question, both Hs are in the tens' column. We also see that in the answer, there is no carryover in the hundreds' column. Therefore, one H added to another H cannot equal a number greater than 9. Looking at the answer options, 5 is the only option that does not satisfy this requirement since $5 + 5 = 10$, which is greater than 9. Therefore, 5 is not a possible value of H.

11) **A** Begin by writing out the fractions of the can of yellow paint that Anwar poured out and add them: $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$. Since this represents how much yellow paint he poured out, there is still $\frac{7}{7} - \frac{5}{7} = \frac{2}{7}$ of the can left.

12) **D** Jasdeep walks on the path between his home and school $5 \times 2 = 10$ times a week. Walking 10 times along the path is equal to 10×260 metres $= 2600$ metres, which is equivalent to $2600 \div 1000 = 2.6$ kilometres.

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13) **A** If Hugo is 14 years old now, he was 5 years old $14 - 5 = 9$ years ago. Therefore, Oliver is now $19 + 9 = 28$ years old. Since $28 \div 14 = 2$, Oliver is two times as old as Hugo now.

14) **C** Including Theodore, there are nine people at the picnic. If each person wants two pieces, $2 \times 9 = 18$ pieces are needed. The number of parallel cuts made is always one less than the number of pieces. Therefore, Theodore must make $18 - 1 = 17$ parallel cuts.

15) **C** A dozen sides means 12 sides, a trapezoid has four sides, and a heptagon has seven sides. Therefore, there are $12 - 4 + 7 = 15$ sides.

16) **B** There are three perfect squares that are equal to or less than nine: 1, 4, and 9. Therefore, the probability that Kenji will roll a number that is a perfect square is $\frac{3}{9}$, which reduces to $\frac{1}{3}$.

17) **D** There are three music notes in row representing students who play three instruments, and one music note in the row representing students who play four instruments. Since each music note represents two students, there are $(3 \times 2) + (1 \times 2) = 8$ students who play three or more instruments.

18) **B** Make an organized chart to determine who finished the race in second place. It is known that Bella is directly in front of Amy, so they must be next to each other in the lineup. It is also known that Dana is at least two spots ahead of Carly. The only configuration that satisfies both these requirements is if Dana is first, Bella is second, Amy is third, and Carly is fourth. Therefore, Bella finished the race in second place.

	1st Place	2nd Place	3rd Place	4th Place
Amy	X	X	✓	X
Bella	X	✓	X	X
Carly	X	X	X	✓
Dana	✓	X	X	X

19) **C** Divide the alphabet into two equal parts.

A-B-C-D-E-F-G-H-I-J-K-L-M | N-O-P-Q-R-S-T-U-V-W-X-Y-Z

In this secret code, the two letters that are the same distance away from the line of division are switched. For example, since O is two spots away from the line of division, it is switched with L which is also two spots away from the line of division.

A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N

Following this logic for the rest of the letters, R becomes I, A becomes Z, N becomes M, G becomes T, and E becomes V. Therefore, Maddie wrote LIZMTV.

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20) **C** Review the given options to find one statement that is true.

Option A: False. The spinner could land on green.

Option B: False. The spinner does not have to land on yellow.

Option C. True. The spinner could land on green.

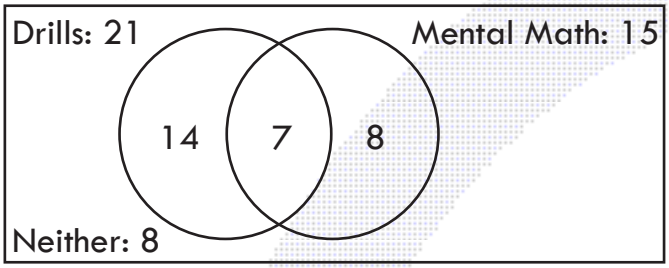
Option D. False. The spinner could land on red.

21) **B** In the worst-case scenario, Yeji will draw all the marbles that do not have the colour blue. There are $11 + 19 + 17 = 47$ marbles that do not have the colour blue, so she must draw $47 + 1 = 48$ marbles to ensure that she draws one with the colour blue.

22) **C** Hiroshi's total score for the first four tests is $72 \times 4 = 288$ points. If he wants his new average to be 76% after writing five tests, $76 \times 5 = 380$ points would be the new total number of points that would need to be earned. Therefore, Hiroshi would need to score $380 - 288 = 92$ % on the fifth test.

23) **C** Use a Venn diagram to solve this problem. If seven students like doing both, then $21 - 7 = 14$ students only like doing drills and $15 - 7 = 8$ students only like doing mental math. Therefore, $37 - 14 - 8 - 7 = 8$ don't like either drills or mental math.

Total: 37 students



24) **D** Out of the options, only 111 satisfies both conditions. It is a three-digit palindrome and $111 + 14 = 125$, which is equal to 5^3.

25) **C** There are 5 choices for the first letter, and for each of these choices, there are 4 choices for the second letter, and for each of these choices, there are 3 choices and so on. Altogether, there are $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$ arrangements. However, there are two R's in the word RADAR. Arranging these two R's will give the same word. For example, R_1R_2ADA and R_2R_1ADA are the same words. Therefore, the total number of arrangements needs to be divided by 2!. Similarly, since there are two A's in RADAR, we need to divide the total number of arrangements by 2! again. Therefore, there are $120 \div 2 \div 2 = 30$ different ways to arrange the letters in the word RADAR.

26) **A** Christmas is on December 25th. Work backwards to calculate the date of Charlotte's math exam: $25 - 4 + 1 - 7 + 2 = 17$ or December 17th. Similarly, calculate the date of Charlotte's movie plans with her friends: $25 + 6 - 1 + 3 - 5 = 28$ or December 28th. Therefore, Charlotte's math exam will take place first.

27) **B** If Zara does not want to sit in the first chair, then three friends remain for the first chair: Yolanda, Xena, or Wendy. For each of these three friends, the remaining three friends are choices for the second chair, the remaining two friends are choices for the third chair, and the final friend must be seated at the final chair. Altogether, there are $3 \times 3 \times 2 \times 1 = 18$ different seating plans.

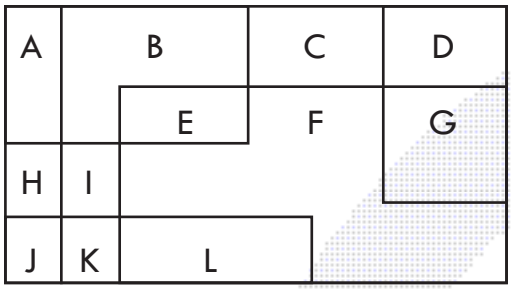
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28) **A** Each of the six bracelets have at least five beads, so $6 \times 5 = 30$ beads are accounted for. There are $40 - 30 = 10$ beads left that must belong to the pink bracelets. Each pink bracelet needs two more beads added to the five already there, so there are $10 \div 2 = 5$ pink bracelets. Therefore, there is $6 - 5 = 1$ blue bracelet.

29) **A** Typically, to count the number of handshakes within a group, you would multiply the number of people by the number of handshakes each person makes, which is one less than the number of people. You would then divide by two to account for the doubles. In this case, since you know the number of handshakes and need to find the number of people, you would work backwards. Therefore, begin by multiplying the total number of handshakes by two: $55 \times 2 = 110$. Afterwards, find two consecutive numbers with a product of 110. These numbers are 10 and 11, so there are 11 people at the banquet. As one of these people is Alejandro, he made $11 - 1 = 10$ handshakes.

30) **D** Label each region of the diagram and make a chart to help you count.



# of Letters	Name	# of Rectangles
1	A, C, D, E, G, H, I, J, K, L	10
2	AH, BE, CD, DG, HI, HJ, IK, JK, KL	9
3	ABE, AHJ, JKL	3
4	EFGL, HIJK	2
9	BCDEFGIKL	1
12	ABCDEFGHIJKL	1
Total		26

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