
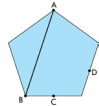
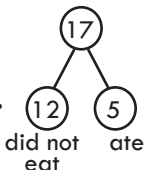
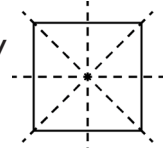


2023 Grade Three Spirit of Math Contest Solutions

- 1) **A** Regroup the numbers to calculate: $3 + 12 + 6 + 8 + 7 + 14 = 3 + 7 + 12 + 8 + 6 + 14$
 $= 10 + 20 + 20$
 $= 50$
- 2) **D** If I am 8 years old, my sister is $8 + 6 = 14$.
- 3) **C** Chickens have two legs; use multiplication to find the total number of legs: $7 \times 2 = 14$
- 4) **C** The first part of the pattern is letters in order: A, B, C, so the next term starts with D. The second part of the pattern is consecutive odd numbers: 1, 3, 5, so the next term ends with 7. The next term is therefore D7.
- 5) **B** Six days before June 22 is $22 - 6 = 16$. Therefore Kayden's birthday is June 16th.
- 6) **B** One dozen is 12. Three more than 12 is $12 + 3 = 15$. 
- 7) **A** Connecting A and B will create a triangle and a trapezoid. 
- 8) **A** Reword the second sentence: All of them ate sandwiches, except for 12. Therefore $17 - 12 = 5$ ate sandwiches. 
- 9) **B** If she read all the books from #1 to #99, she would have read 99 books. But she did not read #1 to #16. Therefore the number of books she read was $99 - 16 = 83$.
- 10) **C** If Areen donated half of her books, that means she donated $60 \div 2 = 30$ books. If she has 30 books left, then half of that is $30 \div 2 = 15$. Therefore she gave 15 books to her brother.
- 11) **D** If the length of each side of the fence is doubled, the length of each side is now $2 \times 2 = 4$ metres. The perimeter of the fence is therefore $4 + 4 + 4 + 4 = 16$ metres.
- 12) **B** The change would be what the cashier owes me: $\$5 - \$1.50 = \$3.50$
- 13) **C** If Demi uses parallel cuts to cut the log into 5 pieces, she is making 4 cuts. Each cut takes 4 minutes, therefore it takes $4 \times 4 = 16$ minutes in total.
- 14) **D** On Monday, Khalil drank 6 glasses of water. On Tuesday, he drank 7. On Wednesday, he drank 5. On Thursday, he drank 8. In total, from Monday to Thursday, he drank $6 + 7 + 5 + 8 = 26$ glasses of water.
- 15) **A** Use an equation with integers to show Sayed's movements, starting at 0 for the surface of the water: $0 - 8 + 5 - 6 = -9$ This means Sayed is 9 meters underwater.
- 16) **D** Lenny is at the end, so he cannot be at the front. If Nico is two spots behind Oren, then Oren could be first and Nico could be third, or Oren can be second and Nico can be fourth. However, Lenny is already fourth in line, so Oren has to be first.
- 17) **C** If May 1st is a Monday, then the date of the first Sunday would be May 7th. Therefore the date of the second Sunday would be May 14th (since $7 + 7 = 14$).
- 18) **B** All pets have at least 2 legs: $10 \text{ heads} \times 2 \text{ legs} = 20 \text{ legs}$.
 There are $32 - 20 = 12$ legs left, which need to go to the cats (since cats have 4 legs)
 There are $12 \div 2 = 6$ "extra" pairs of legs, which means there are 6 cats.
- 19) **D** A square has one vertical line of symmetry, one horizontal line of symmetry and two diagonal lines of symmetry, for a total of four lines of symmetry. 

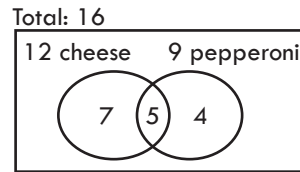
2023 Grade Three Spirit of Math Contest Solutions

- 20) **A** Use a Venn diagram to organize the information:

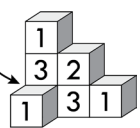
$$12 - 5 = 7 \text{ like cheese only}$$

$$9 - 5 = 4 \text{ like pepperoni only}$$

$$7 + 5 + 4 = 16 \text{ total}$$



- 21) **A** “How much does one bop weigh?” is required to solve the problem.
 “What is the difference between a bip and a bop?” is not relevant to the problem.
 “How much does one bloop weigh?” is already given.
 “Which one is biggest?” is not helpful to solve the problem.
- 22) **B** Work backwards: if they both have \$5 now, and Sonya gave \$2 to Venya, then Venya had \$3 and Sonya had \$7. Before this, Venya gave \$3 to Sonya, so Sonya had \$4. If Venya was left with \$3 after this, she originally had \$6.
- 23) **B** The length of 4 doors are $4 \times 60 \text{ cm} = 240 \text{ cm}$, and the length of the 3 spaces between the doors is $3 \times 40 \text{ cm} = 120 \text{ cm}$. The total length of space is $240 + 120 = 360 \text{ cm}$.
- 24) **B** Since blue (B) and green (G) need to be on the outside, Mike can either have blue first and green last, or green first and blue last. Since red (R) and yellow (Y) need to be together, the arrangements will therefore be B R Y G, B Y R G, G R Y B, and G Y R B.
- 25) **C** The only option that works is 17. The code would then be 1734, which works because 73 is also a prime number.
- 26) **B** There are 30 days in April, so Celine wants to practice a total of $30 \times 2 = 60$ hours. If she practices 15 hours in the first 10 days, she has $60 - 15 = 45$ hours left to practice. If she took a break for 5 days, she has 15 more days to practice. She will therefore need to practice $45 \div 15 = 3$ hours a day for the rest of the month to reach her goal.
- 27) **B** The faces without paint are the ones that had glue on them. Look at each of the 7 cubes and count the number of faces that have been glued (don't forget the one at the back!) Therefore, 14 faces do not have paint on them.



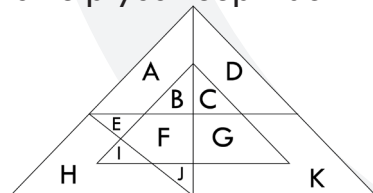
- 28) **D** Use a logic table to help you track the information given:

- Dan got the chocolate croissant because all the others had fruit
- Ada didn't order a muffin, so she got the cherry danish
- Chris had to get the apple cinnamon muffin, since he's allergic to blueberries

	Choc. Croiss.	Ch. Danish	B. Muffin	A.C. Muffin
A	X	✓	X	X
B	X	X	✓	X
C	X	X	X	✓
D	✓	X	X	X

- 29) **B** In the worst case scenario, she picks all accessories that does not have white colour. There are 10 hair accessories that are only pink (7 hairbows + 3 headbands). The rest have white in some form, so she must remove $7 + 3 + 1 = 11$ accessories so that she can be sure she has picked one that has white.

- 30) **C** Label each region of the diagram and use a chart to help you keep track:



# of letters	Triangle Names	# of triangles
1	B, C, E, I, J	5
2	AB, BC, CD, CG, HI	5
3	BFI, EFJ	2
4	ABCD, CDGK	2
5	ABEFJ, BCFGJ	2
7	ABEFHIJ	1
11	ABCDEFGHJK	1
Total:		18

