

Markhor Junior Contest 2024

Learner Level (Class III & IV)

Mathematics

Time Allowed 60 Minutes

There are 19 problems, graded as follows:

Questions 1-5 are 1 point each,

Questions 6-10 are 2 points each,

Questions 11-15 are 3 points each,

Questions 16-19 are 5 points each.

1. Maya, Ben, and Lily are decorating cookies.

They each have a special trick to change the number of sprinkles on a cookie:

- **Maya: She can triple the number of sprinkles.**
- **Ben: He can add 4 more sprinkles.**
- **Lily: She can remove half.**

They work together in a specific order to transform a cookies with only 12 sprinkles into a cookies with exactly 30 sprinkles.

How can they achieve this using their tricks in the right order?

- a) Maya >> Ben >> Lily
- b) Lily >> Maya >> Ben
- c) Ben >> Lily >> Maya
- d) Lily >> Ben >> Maya

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2. **What is the missing number in the following sequence: 0.25, 0.5, ___, 1 , 1.25**
 - a) 0.7
 - b) 0.75
 - c) 0.8
 - d) 1
3. **The area of a square is 64 cm^2 . What is the perimeter of the square?**
 - a) 16 cm
 - b) 24 cm
 - c) 32 cm
 - d) 64 cm
4. **In a code, each letter is represented by a different number. If the code for "CAT" is 123, what is the code for "ACT"? (Notice that the order of the letters matters)**
 - a) 321
 - b) 132
 - c) 213
 - d) It cannot be determined
5. **A rectangular garden is 10 meters long and 6 meters wide. If Mary wants to walk around the entire perimeter of the garden, what total distance will she walk in ten rounds?**
 - a) 32 meters
 - b) 100 meters
 - c) 160meters
 - d) 320 meters

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- 6. At a bakery, there are 36 cupcakes and 48 muffins. If they are to be placed in boxes that can hold 12 treats each, what is the minimum number of boxes needed?**
- a) 4
 - b) 6
 - c) 7
 - d) 8
- 7. The product of two consecutive even numbers is always divisible by:**
- a) 2 only
 - b) 4 only
 - c) 6 only
 - d) Both 4 and 2
- 8. If the sum of two numbers is 72, and their difference is 18, what is the larger number?**
- a) 27
 - b) 36
 - c) 45
 - d) 54

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- 9. A colorful assortment of candies filled a dish. Umaima couldn't resist, taking half for herself. Ben then reached in, leaving only half of what remained. Finally, Chloe grabbed half of the leftovers. If there were just 4 lonely candies left at the end, how many candies were there at the very beginning?**
- a) 8
 - b) 16
 - c) 32
 - d) 64
- 10. Five friends - Alex, Maya, Ethan, Lucas, and Ava - made statements about the number 468. Who made the incorrect statement?**
- Alex: "The number has three digits."
 - Maya: "Each digit is unique."
 - Ethan: "The digits add up to 15."
 - Lucas: "The number ends in 8."
 - Ava: "All the digits are even."
- a) Alex
 - b) Maya
 - c) Ethan
 - d) Lucas

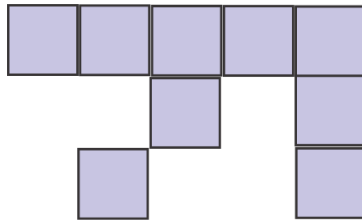
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- 11. Alice is looking at a scarf for 20 rupees, a pair of sunglasses for 15 rupees, and a hat for 10 rupees. The store has a promotion where if you buy all three items together, you only pay 35 rupees. How much money would Alice save by buying the bundle instead of each item separately?**
- a) 20
 - b) 10
 - c) 15
 - d) 5
- 12. In August, a water tank was filled for exactly 2 weeks. How many hours was the tank empty during this month?**
- a) 24
 - b) 336
 - c) 408
 - d) 672
- 13. The Markhor Junior Contest for Mathematics began at 10:30 am last year and lasted for 60 minutes. If a student finished the Markhor Junior Math Contest in half the time allotted, what time did they finish the test?**
- a) 11:30
 - b) 10:00
 - c) 11:00
 - d) 10:45

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14. Hina has a large sheet of paper in a square shape. She wants to completely cover the entire sheet with small square stickers. If one side of the large sheet can fit exactly 5 stickers in a row, how many more stickers does Hina need to completely cover the entire sheet with no empty spaces?

- a) 6
- b) 9
- c) 16
- d) 25



15. Maya, Nadia, Chloe, and Olivia shared some cookies.

- **Maya ate more cookies than Nadia.**
- **Chloe ate more cookies than Olivia.**
- **But wait! Even though Chloe seemed excited at first, she actually ate fewer cookies than Nadia.**

Can you put their names in order, from who ate the most cookies to the least?

- a) Chloe, Maya, Nadia, Olivia
- b) Maya, Chloe, Nadia, Olivia
- c) Maya, Chloe, Olivia, Nadia
- d) Maya, Nadia, Chloe, Olivia

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16. David and Rachel are hiking up a mountain trail. Rachel's campsite is 12 markers above David's starting point. Halfway through his hike, David reaches marker 8. At which marker is Rachel's campsite located?

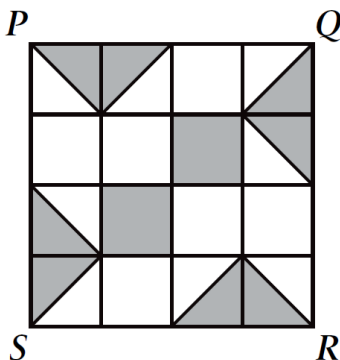
- a) 8
- b) 12
- c) 14
- d) 16

17. There are some months with 5 Mondays. What is impossible in these months?

- a) Could not have 5 Saturdays
- b) Could not have 5 Thursdays
- c) Could not have 5 Sunday
- d) Could have 5 Thursday

18. Square PQRS is divided into 16 smaller congruent squares, as shown. What fraction of PQRS is shaded?

- a) $\frac{1}{6}$
- b) $\frac{3}{8}$
- c) $\frac{1}{3}$
- d) $\frac{1}{2}$



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19. Roomi has a daily treat routine. She either enjoys 2 squares of chocolate or 9 toffees. Sometimes, she mixes things up with 1 chocolate and 4 toffees. If Roomi only ate 5 chocolates over the past 6 days, how many toffees do you think she might have munched on?

- a) 20
- b) 30
- c) 40
- d) 50