



1st Bangladesh Mathematics and Science Olympiad (BdMSO)

July – October 2025

BdMSO Sample Question 2025

Organizer

Bangladesh Open Source Network (BdOSN)
Society for the Popularization of Science, Bangladesh (SPSB)

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Science

1.

The table below shows Organism X and its characteristics.

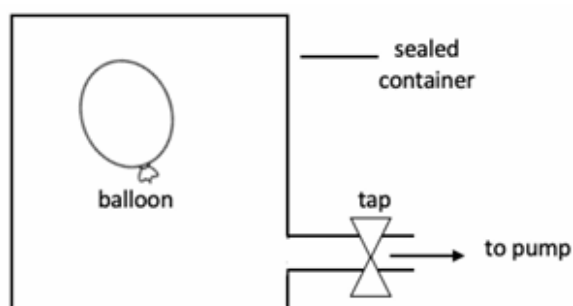
Characteristics	Organism X
Able to move about by itself	Yes
Need air, water, and food	Yes
Able to make food	No

What can Organism X possibly be?

- A. Water hyacinth B. Rose plant C. Buffalo D. *Pterocarpus* tree

2.

The diagram shows a balloon placed inside a sealed rigid container connected to an air pump. The pump was switched on to extract a little air from the sealed container.

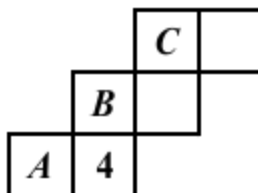


- (a) Describe what happens to the balloon as little air is extracted from the container. [1.5 points]
- (b) Explain your observation above making reference to the pressure and volume of the gas inside the balloon. [1.5 points]

Mathematics

1.

The diagram below is the expanded net of a cube. We label each of the faces of the cube by using the numbers 1, 2, 3, 4, 5, and 6 exactly once, so that the sum of any two opposite faces is always 7. What is the largest possible value of $A \times (B^2 + C)$?



The average of 20 numbers is 18. If the first number is increased by 2, the second number is increased by 4, the third number is increased by 6, ..., the twentieth number is increased by 40. What is the average of the 20 numbers now?

2.

What is the difference between the sum of even positive integers and the sum of odd positive integers less than 295 not divisible by 7?

3.

A special die has six faces numbered 1 through 6. You roll it 3 times. What is the probability that the sum of the highest and lowest values rolled is exactly equal to the value of the third roll?

Answer: 0/216

4.

Find the number of ordered triples (a, b, c) of positive integers such that $a + b + c = 30$ and $\text{lcm}(a, b, c) = 60$.

Answer: 12