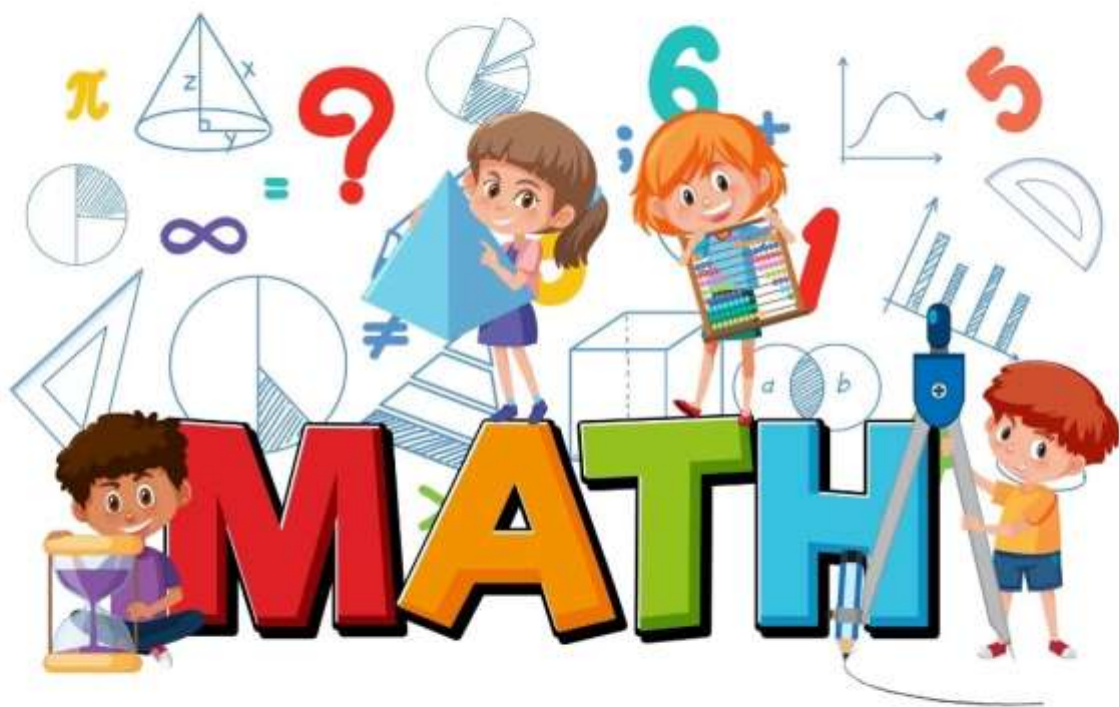




# IBMYP Extended Maths Sample Paper 2



[WWW.TYCHR.COM](http://WWW.TYCHR.COM)

## IB MYP Extended Math On screen-examination

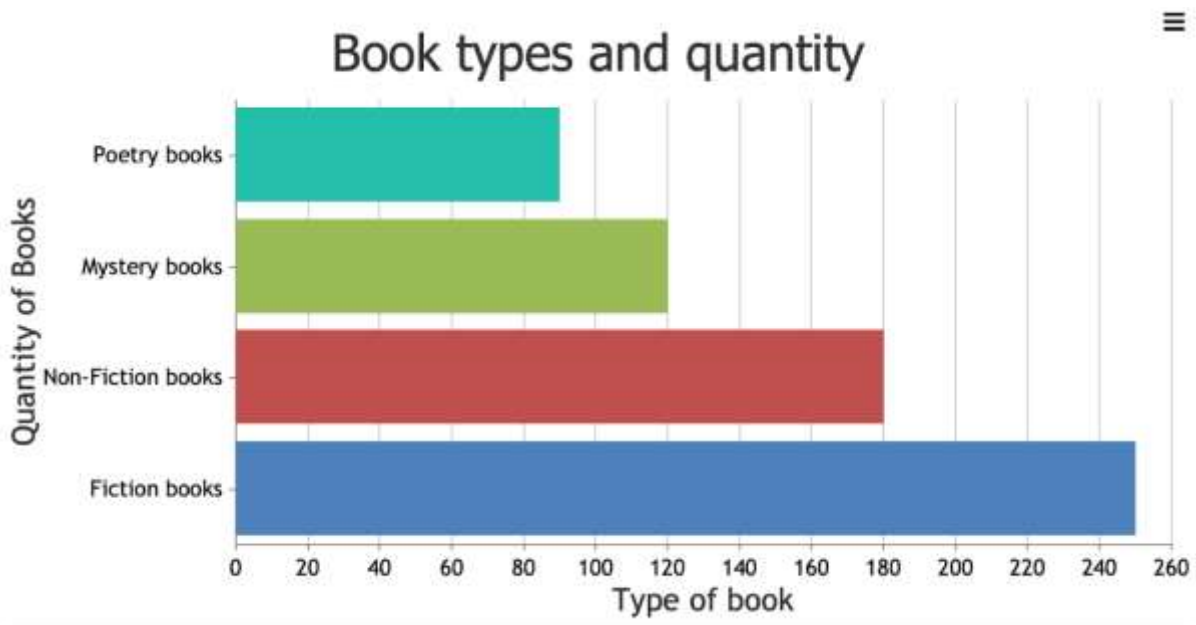
**Total Marks: 100 marks**

### Instructions

- The on-screen examination has not yet started.
- Your time will begin once you have clicked the Start button below. Do not click Start until instructed to do so.
- Before the examination begins you are given 5 minutes to become familiar with its structure. Please navigate around the examination, taking note of the length of each task and question. You have 2 hours to complete the examination.
- There are 10 separate questions in this examination. Each question may have sub-parts. Answer all the questions in the response boxes provided. The maximum mark for this examination is 100 marks.
- As you progress through the questions, your answers are automatically saved.
- When 2 hours has ended, you will no longer be able to answer any questions.

### Question 1 (7 marks)

***In a school library, there are three different types of books on the shelves: Fiction, Non-Fiction, Mystery, and an additional category of Poetry. The librarian recorded the number of books for each type on the shelves.***



### Question 1a (2 marks)

***What is the total number of books in the library?***

To calculate the total number of books in the library, we need to add the quantities of all four book types.

Total number of books = Fiction + Non-Fiction + Mystery + Poetry

Total number of books = 250 books + 180 books + 120 books + 90 books

Total number of books = 640 books

Therefore, the total number of books in the library is 640 books.

**Question 1b (3 marks)**

**What percentage of the library books are Fiction?**

To find the percentage of Fiction books, we divide the number of Fiction books by the total number of books and then multiply by 100 to get the percentage.

Percentage of Fiction books = (Number of Fiction books / Total number of books) × 100

Percentage of Fiction books = (250 books / 640 books) × 100

Percentage of Fiction books ≈ 39.06%

Therefore, approximately 39.06% of library books are Fiction.

**Question 1c (2 marks)**

**If 50 new Mystery books were added to the library, 30 Non-Fiction books were borrowed by students, and 20 Poetry books were donated, what would be the new percentage of Mystery books in the library?**

New quantity of Mystery books = Old quantity of Mystery books + 50 new books

New quantity of Mystery books = 120 books + 50 books = 170 books

New quantity of Non-Fiction books = Old quantity of Non-Fiction books - 30 borrowed books

New quantity of Non-Fiction books = 180 books - 30 books = 150 books

New quantity of Poetry books = Old quantity of Poetry books + 20 donated books

New quantity of Poetry books = 90 books + 20 books = 110 books

Total new number of books = Total number of books + (New Mystery books - Old Mystery books) + (New Non-Fiction books - Old Non-Fiction books) + (New Poetry books - Old Poetry books)

Total new number of books = 640 books + (170 books - 120 books) + (150 books - 180 books) + (110 books - 90 books) = 680 books

New percentage of Mystery books = (New number of Mystery books / Total new number of books) × 100

New percentage of Mystery books = (170 books / 680 books) × 100 ≈ 25.00%

Therefore, the new percentage of Mystery books in the library would be approximately 25%.

**Question 2 (10 marks)**

**Question 2a (1 mark)**

**A Cyclist is riding at a constant speed of 15 meters per second towards the west. Calculate the cyclist's displacement after 20 seconds.**

**Answer:** The displacement ( $d$ ) is given by the formula:

$d = \text{speed} \times \text{time}$

$d = 15 \text{ m/s} \times 20 \text{ s} = 300 \text{ meters}$

So, the cyclist's displacement after 20 seconds is 300 meters.

**Question 2b (2 marks)**

**A cyclist is riding at an angle of 30 degrees with respect to the east direction at a speed of 15 kilometers per hour. What are the horizontal and vertical components of the cyclist's velocity vector?**



**WWW.TYCHR.COM**



**+91 9540653900**