

# My L<sup>A</sup>T<sub>E</sub>X Document

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Hello world in L<sup>A</sup>T<sub>E</sub>X document.

Let's examine the function  $y = \frac{x}{3x^2 + x + 1}$

**IB Mathematics SL**  
**Internal Assessment**

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**This is a Sample Title**

**This is a Sample Subtitle**

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$$3x + 4$$

$$3x^3 + 4$$

$$3x^{4x+4} + 4$$

subscripts

$$x_1$$

$$x_{12}$$

$$x_{1_2}$$

$$x_{12_3}$$

$$a_0, a_1, a_2, \dots, a_{100}$$

Greek letters

$$\pi$$

$$\Pi$$

$$\alpha$$

$$A = \pi r^2$$

Trig functions

$$y = \sin x$$

$$y = \cos \theta$$

$$y = \sin^{-1} x$$

$$y = \arcsin 1$$

Log Functions

$$z = \log x$$

$$z = \log_5 x$$

$$z = \log_{5^2} x^2$$

$$z = \ln x$$

Lim:

$$\lim_{x \rightarrow a} f(x)$$

Int:

$$\int \sin x \, dx = -\cos x + C$$

$$\int_a^b f(x)$$

$$\int_a^b x^2 \, dx = \left[ \frac{x^3}{3} \right]_a^b = \frac{b^3}{3} - \frac{a^3}{3}$$

Roots

$$\sqrt[3]{2}$$

$$\sqrt{x^2 + y^2}$$

$\sqrt{1+\sqrt{x}}$

Fractions:

$\frac{2}{3}$

About  $\frac{2}{3}$  of the glass is full.

About  $\frac{2}{3}$  of the glass is full. About  $\frac{2}{3}$  of the glass is full.

$\frac{2}{3}$

$\frac{\sqrt{x+1}}{\sqrt{x+1}}$

The functions  $f(x) = (x-3)^2 + \frac{1}{2}$  has domain  $D_f : (-\infty, \infty)$   
The distributive property states that  $a(b+c) = ab+ac$  for all  $a, b, c, \in \mathbb{R}$ .

The equivalence class of  $a$  is  $[a]$ .  
The set  $a$  is defined to be  $\{1, 2, 3\}$   
The movie ticket costs \$11.50.

$2\left(\frac{1}{x^2+1}\right)$

$2\left[\frac{1}{x^2+1}\right]$

$2\left\{\frac{1}{x^2+1}\right\}$

$2\left\langle\frac{1}{x^2+1}\right\rangle$

$2\left|\frac{1}{x^2+1}\right|$

$\frac{dy}{dx}\Big|_{x=1}$

Tables:

|        |               |    |    |    |    |
|--------|---------------|----|----|----|----|
| $x$    | 1             | 2  | 3  | 4  | 5  |
| $f(x)$ | $\frac{1}{2}$ | 11 | 12 | 13 | 14 |

Таблица 1: These values represen the function  $f(x)$

|        |               |    |    |    |    |
|--------|---------------|----|----|----|----|
| $x$    | 1             | 2  | 3  | 4  | 5  |
| $f(x)$ | $\frac{1}{2}$ | 11 | 12 | 13 | 14 |

Таблица 2: These values represen the function  $f(x)$

Таблица 3: These values represen the function  $f(x)$

|         |               |
|---------|---------------|
| $f(x)$  | $f'(x)$       |
| $x > 0$ | The function. |

Arrays:

$$5x^2 \text{ place your words here} \quad (1)$$

$$5x - 12 = 3x - 10 \quad (2)$$

$$x = 1$$

$$2x = 2 \quad (3)$$

$$x = 1 \quad (4)$$

1. pencil

2. calculator

3. notebook

(a) notes

(b) homework

i. Math

ii. Phys

iii. IT

• pencil

• calculator

• notebook

A. pencil

B. calculator

C. notebook

i. pencil

ii. calculator

iii. notebook

6. pencil

7. calculator

8. notebook

a) pencil

two calculator

4 notebook

Work with text:

This will produce *italic*.

This will produce **bold**.

This will produce SMALL CAPS.

This will produce `typewriter font`.

This will produce <http://youtube.com>

This will produce Youtube

Please check my blog

Please check my blog

Please check my blog

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# 1 Linear Functions

## 1.1 Slope-Intercept Form

### 1.1.1 Example 1

### 1.1.2 Example 2

## 1.2 Standard Form

## 1.3 Point-Slope Form

# 2 Quadratic Functions



## Critical Thinking Questions

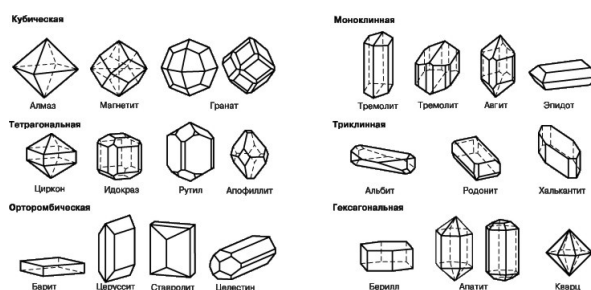
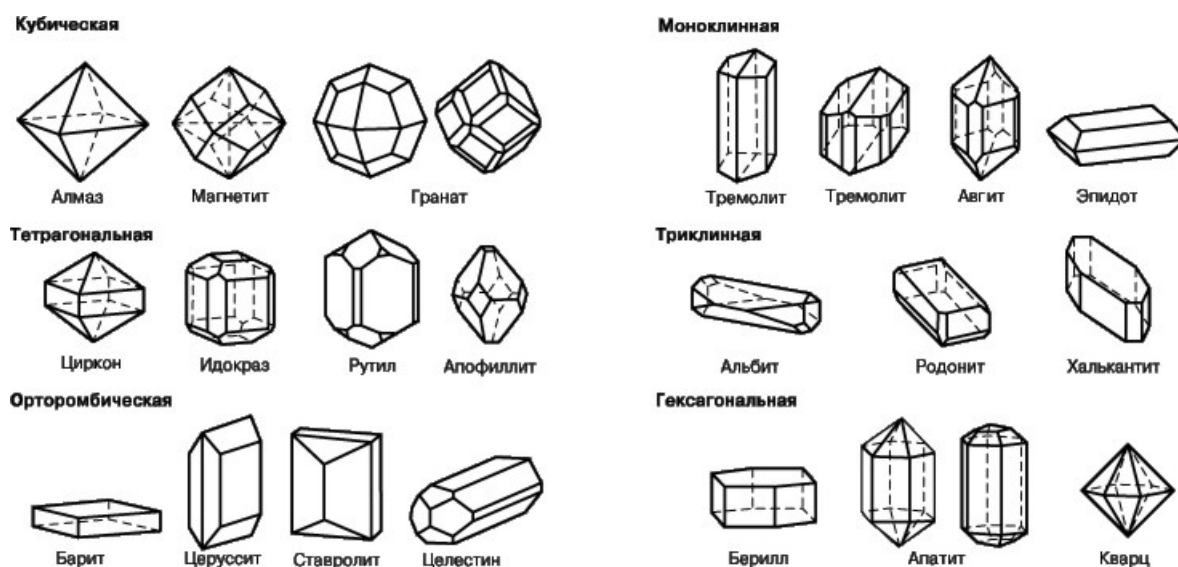


Рис. 1: This is a kinds of figures

1. Is it possible for a sequence to converge to two different numbers? If so, give an example (see picture 1). If not, explain why not.
2. Explain how to use partial sums to determine if a series converges or diverges. Give an example
3. Explain why  $\int_1^{\infty} f(x) dx$  and  $\sum_{n=1}^{\infty} a_n$  need not converge to the same value, even if they are both convergent.
4. In your own words, explain the Alternating Series Remainder Theorem. How is this theorem useful?
5. Explain the difference between absolute and conditional convergence. Give an example of each.
6. The Ratio Test is inconclusive if  $\lim_{n \rightarrow \infty} \left| \frac{a_{n+1}}{a_n} \right| = 1$ . Give an example of one convergent series and one divergent series for which  $\lim_{n \rightarrow \infty} \left| \frac{a_{n+1}}{a_n} \right| = 1$ . Explain how you determined your examples.<sup>1</sup>

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<sup>1</sup>This first footnote



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## Список литературы

[1] Egor Zhelagin High School *Iternal Assessment* Web: 27 may 2015

[2]