

№ЛД-21 ИИ

**Federal State Budgetary Educational Institution higher  
education "NORTH-OSSETIAN STATE MEDICAL  
ACADEMY"**

**Ministry of Health of the Russian Federation**

**Department of Chemistry and Physics**

APPROVED

the minutes of the meeting of the central  
coordinating teaching and methodical cabinet  
from «23» May 2023 year № 5

**EVALUATION MATERIAL INFORMATION**

**TECHNOLOGY IN MEDICINE**

the main professional educational program of higher education –

the specialty program in the specialty **31.05.01 Medical care**,

approved on 24.05.2023

Considered and approved at the meeting of the department  
From '22' May 2023 year (protocol №9)

Head of the department  
Academic degreeest. of chemical sciences



(Kalagova R. V.)

## STRUCTURE OF EVALUATION MATERIALS

1. Title page
2. The structure of the WCF
3. Review of WCF
4. Passport of valuation means
5. A set of evaluation tools
  - Questions for the exam
  - Standards of test tasks (with title page and table of contents)

The passport of the appraisal fund

Discipline Digital Technology in medicine

<b>№ п/ п</b>	<b>The name of the controlled section (topic) of the discipline / module</b>	<b>Codes of competence</b>	<b>Name of valuation n means</b>
1	2	3	5
1	Fundamentals of the digital economy and digital health Medical Image Recognition Algorithms Virtual and Augmented Reality in Medicine	GPC-10	Test,
2	Big data and artificial intelligence in healthcare Strategy for creating a new model of medical institutions based on digitalization.	GPC-10	Test,
3	Biomedical Signal Analysis - Digital Signals and Images Digital images in MATLAB and their application in medical research	GPC-10	Test,
4	Software for the implementation of information processes in medicine. Basic technologies of discrete orthogonal and wavelet transformations of information.	GPC-10	Test,
5	Pre-processing of medical signals and images using digital technologies.	GPC-10	Test,

**Questions for the exam  
in the discipline "Digital Technology in medicine "  
for 2nd year students of the Faculty of General  
Medicine**

1. Writing concept and history of digital health
2. What are the structure, subjects and objects of digital health
3. What are the needs of self-preservation behavior of the population and the possibilities of digital health
4. List digital health issues (patient, professional, institutional)
5. To characterize the prospects of digital health care in the self-preservation behavior of the population.
6. Classification of medical images.
7. How the size of the image matrix and its quality are related.
8. What are the ways of processing medical images on a computer.
9. Evidence-based organization and management of the health service.
10. What is a CAD Computer Assistant System?
11. What is virtual reality.
12. Describe the types of virtual reality.
13. Analyze the pros and cons of virtual reality.
14. What are the prospects for virtual reality.
15. Why Mark Zuckerberg invests in VR, why create social networks with augmented reality.
16. Describe the need for artificial intelligence in healthcare.
17. Analyze the process of introducing AI in our country.
18. To characterize the algorithm for modeling the perceptron in the Matlab environment.
19. What is the need for transformation in health care.
20. Digital transformation in healthcare - what is it.
21. Healthcare transformation and value-based treatment comment
22. What is spectral analysis.
23. The role of information technology in biomedical research.
24. Give mathematical definitions of spectral functions and transformations
25. List the functions of the MATLAB package that generate spectral functions and transformations of initial medical signals.
26. What are the principles of obtaining projections of a tomographic image?
27. How is the reconstruction of the head phantom based on projection data.
28. What are the features of the synthesis of projections when using parallel rays?
29. What are the features of the synthesis of projections when using fan rays?
30. List the known biomedical signals.
31. List the main informational characteristics of the ECG signal.
32. Explain why the R wave of the electrocardiogram is used to form HRV time series.
33. How the HRV signal is formed from the electrocardiogram recording.
34. What is the essence of the used algorithm for clearing signals from artifacts.
35. What type of interpolation is recommended for HRV signals.
36. Under what conditions the mathematical expectation and the mode are slightly different.
37. What types of HRV distribution histograms are known.
38. The concept of digital signal processing systems
39. The language of mathematical functions MATLAB and SIMULINK
40. Description of the MATLAB interface

41. Working with matrices in MATLAB
42. Working with graphics in MATLAB
43. Matrices and Arrays in MATLAB
44. Flow control in MATLAB
45. Scripts and Functions in MATLAB
46. Controlled graphics in MATLAB
47. Biomedical signals used in medical diagnostics - classification
48. Block diagram of heart rate variability
49. Physiological nature of the ECG signal
50. Mathematical methods for the analysis of biomedical signals
51. Program for conducting research and importing results into MATLAB
52. Source signal interpolation - methods in MATLAB
53. Fundamentals of spectral analysis in the HAARA bases
54. Definition of wavelet transforms, methods of using them in medical research
55. Windowed Fourier transforms, a technique for using them in medical research
56. Methods of object recognition in medical images using MATLAB
57. What is the result of the direct Fourier transform.
58. Three main spectral components of short records of HRV signals.
59. What parameters are included in the equation of continuous wavelet analysis.
60. How is the scaling parameter of the wavelet transform and the investigated frequency related?
61. List the known basic functions of the wavelet transform.
62. What shape does the scatterogram of the HRV signal usually have?
63. How correlation rhythmography is formed.
64. Estimates of what methods are used to obtain a complex indicator of PARS.
65. List the contents of the original files of HRV signals.
66. What methods are used for interpolation of initial signals to obtain estimates.
67. How many electrodes are used to register HRV signals.
68. Name the file format of MATLAB environment functions.
69. What command in MATLAB environment is used to implement fast Fourier transform.  
List the main arguments for this command.
70. Describe an algorithm for constructing an attractor in the phase space.
71. What does the multifractal spectrum of a monofractal signal look like?

**FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER  
EDUCATION "NORTH OSSETIAN STATE MEDICAL ACADEMY" OF THE  
MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION**

**REVIEW**

**FOR EVALUATION MATERIALS**

**in the discipline " Information**

**Technology " for 4nd year students**

**in the specialty 31.05.01 Medical care**

The evaluation materials were compiled at the Department of Chemistry and Physics on the basis of the work program of the discipline " Digital Technology " and comply with the requirements of the Federal State Educational Standard in 3++

The evaluation materials was approved at a meeting of the Central Coordination Educational and Methodological Council and sealed with the seal of the educational and methodological management. The evaluation materials means includes a bank of test items and questions for the final test for the discipline.

The bank of test items includes test items and response templates. All tasks correspond to the work program of the discipline Digital Technology and cover all its sections. The number of test items ranges from 20 to 39.

There are no comments to the peer-reviewed the evaluation materials.

In general, the evaluation materials for the discipline " Digital Technology " contributes to a qualitative assessment of the level of students' mastery of universal and professional competencies.

The peer-reviewed the evaluation materials for the discipline " Digital Technology " can be recommended for use for intermediate certification for students of 4nd year of study in the specialty 31.05.01 General medicine..

Chairman of the TsUMC of natural sciences

And mathematical disciplines with the subcommittee On examination of evaluation tools. Associate Professor

N I Botsieva



**FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER  
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Chief physician of GBUZ "Polyclinic No. 1"  
of the Ministry of Health of RSO-Alania



Z.V.Mecaeva

## Table of contents

<b>№</b>	<b>The name of the controlled section (topic) of the discipline / module</b>	<b>Number of tests (total)</b>	<b>Code of Competences Formed</b>	<b>p. from ___ to</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>View control</b>	<b>Intermediate</b>			
1.	Fundamentals of the digital economy and digital health Medical Image Recognition Algorithms Virtual and Augmented Reality in Medicine	<b>79</b>	GPC-10	<b>12-25</b>
2.	Big data and artificial intelligence in healthcare Strategy for creating a new model of medical institutions based on digitalization.	<b>53</b>	GPC-10	<b>26-32</b>
3.	Biomedical Signal Analysis - Digital Signals and Images Digital images in MATLAB and their application in medical research	<b>214</b>	GPC-10	<b>33-58</b>
4.	Software for the implementation of information processes in medicine. Basic technologies of discrete orthogonal and wavelet transformations of information.	<b>73</b>	GPC-10	<b>58-74</b>
5.	Pre-processing of medical signals and images using digital technologies.	<b>15</b>	GPC-10	<b>74-76</b>



**The concept of information.  
General characteristics of the processes of data collection, transmission, processing  
and accumulation. Methods and means of informatization in medicine and public  
health.**

**Self-check tests:**

**1. The Matlab system is**

- a. Universal mathematical system
- b. text editor
- c. algorithmic programming language
- d. system of work with databases

**2. Does not apply to analogs of the Matlab system**

- a. Basic
- b. Mathematica
- c. Maple

**3. The Mathematics panel contains**

- a. 1.buttons with palettes of commonly used mathematical notation
- b. 2.math buttons
- c. 3.lists of math functions
- d. 4.buttons for programming functions

**4. Symbol: = in Matlab denotes**

- a. assignment
- b. equality
- c. approximation
- d. description

**5. The assignment operation in the Matlab document looks like this:**

- a. a: = 5
- b. a = 5
- c. a; 5
- d. a: 5

**6. When entering an assignment character from the keyboard, enter**

- a. 1.colon
- b. 2.semicolon
- c. 3.space
- d. 4.equal sign

**7. To change the format of the result, you need**

- a. 1.changing the number of characters in the Result Format window
- b. 2.add zero to the result
- c. 3.change the precision of calculations
- d. enter the initial data with greater accuracy

**8. Before entering the subscript of the vector element, press the key**

- a. one. [
- b. Shift
- c. Alt

**9. A discrete variable allows**

- a. 1.set a variable to a series of numbers arranged in ascending order with equal steps
- b. 2.Set the variable the change interval
- c. 3.change the value of the variable by one
- d. 4.there is no correct answer in the list

**10. Built-in functions located on the Calculator palette are entered into the document**

- a. 1.clicking on the function name
- b. 2.only by entering the function name from the keyboard

- c. 3.selecting the function name on the Calculator palette
- d. 4.there is no correct answer in the list

**11. If, when specifying a discrete variable, the step is omitted, then**

- a. 1.step is considered equal to 1
- b. 2.step is considered equal to 0
- c. 3.step is considered equal to 0.5
- d. Error message

**12. Numeric constant TOL is intended for**

- a. 1.setting the accuracy for approximate calculations \*
- b. 2.setting the number of characters when displaying the result
- c. 3.setting the accuracy of the initial data
- d. 4.setting the number of displayed results

**13. To get a table of values of the function  $f(x)$  in a given discrete variable range, enter**

- a. 1. $f(x) =$
- b. 2. $f(x) :=$
- c. 3. $f(x)$  and press the Tab key
- d. 4. $f(x)?$

**14. User function**

- 1.must be described before first use \*
- 2.can be described anywhere in the document
- can not be described
- 4.there is no correct answer in the list

**A discrete variable allows**

- 1.set a variable to a series of numbers arranged in ascending order with equal steps
- 2.Set the variable the change interval
- 3.change the value of the variable by one
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**Built-in functions located on the Calculator palette are introduced into the document**

- 1.clicking on the function name
- 2.only by entering the function name from the keyboard
- 3.selecting the function name on the Calculator palette
- 4.there is no correct answer in the list

**If, when specifying a discrete variable, the step is omitted, then**

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**User function**

- 1.must be described before first use \*
- 2.can be described anywhere in the document
- 3. can not be described
- 4.there is no correct answer in the list

**The input cursor is marked with red cross**

- 1.Horizontal red line
- 2.Red vertical line
- 3.there is no correct answer in the list

**The character placeholder is**

- 1.black rectangle in which the character should be entered according to the format
- 2.black rectangular frame into which it is fashionable to enter the formula
- 3.red rectangle in which the error message is displayed
- 4.there is no correct answer in the list

**You can use the key to navigate from one placeholder to another.**

1. TAB
2. HOME
3. END
- 4.there is no correct answer in the list

**To remove a part of the formula, you need**

- 1.select this part and press the Del key
- 2.press the Del key
- 3.press the Backspace key
4. There is no correct answer in the list.

**To start entering text directly into the computational area, enter**

1. symbol "
- 2.symbol /
- 3.symbol \
- 4.symbol?

**At the location marked with the cursor, the graph template appears by**

- 1.clicking on the appropriate template in the Graph panel
2. dragging and dropping the chart template
3. double click on the location marked with the cursor
- 4.there is no correct answer in the list

**If the function argument is not described when plotting the graph, then**

- 1.By default, the graph will be built in the range from -10 to 10 with a step of 1
- 2.By default, the graph will be built in the range from -1 to 1 with a step of 0.1
- 3.An error message will appear
- 4.there is no correct answer in the list

**When plotting 2 or more graphs in one template, the names of the functions are entered**

- 1.separated by commas
- 2.separated by a colon
3. through a space
- 4.there is no correct answer in the list

**To delete a schedule, you need**

- 1.activate it by clicking the mouse and press the Del key
- 2.press the Del key
- 3.select the graph with the mouse
- 4.there is no correct answer in the list

**To change the graphic color, symbol or line thickness in the Format chart window, use the tab**

1. Traces
2. X-Y Axes
3. Labels
4. Defaults

**The symbol “->” (arrow) is intended for**

- 1.to carry out symbolic calculus

2. to enter a comment
3. for the analytic transformation of the function
- a. 4. to calculate the function

**MATLAB is short for words**

1. Mathematical Laboratory
2. Matrix Laboratory
3. Materialized Labor

**MatLab extension packages are called**

1. Toolkits
2. Tools
3. Toolboxes

**Of the listed devices, it is optional when working with MatLab.**

1. monitor
2. processor
3. printer

**Is MatLab capable of performing operations on complex numbers**

1. yes
2. no

**In addition to calling programs written in the MatLab language, work in the MatLab environment can be performed**

1. "in automatic mode"
2. "in data entry mode"
3. "in calculator mode"

**Most of the commands and functions of the system are stored as text files with enlargement**

1. g
2. .m
3. .p

**Which menu in the menu bar of the main MatLab window contains commands to display and hiding internal program windows**

1. Window
2. Help
3. Desktop

**What window of the MatLab system is intended for entering numbers, variables, expressions and commands to view calculation results and display program texts**

1. Command History
2. Command Window
3. Workspace

**The keys <↓> and <↑> in MatLab serve**

1. to move the cursor down or up on the screen
2. to move the cursor left or right on the screen
3. to display commands and expressions previously entered from the keyboard in the input line

**If the result of evaluating the expression has not been assigned to any other variable, then MatLab always stores it in a variable**

1. inf
2. ans
3. NaN

**To separate the integer part of a number from the fractional part in MatLab, use**

1. point

- 2.comma
- 3.semicolon

**What format of presentation of calculation results is used in MatLab by default**

- 1.hex
- 2.long
- 3.short

**To denote the imaginary unit in complex numbers in MatLab is reserved two characters**

- 1.i and j
- 2.i n k
- 3.j and k

**Does MatLab, like other programming languages, require in advance declare variable types**

- 1.yes
- 2. no
- 3.to display commands and expressions previously entered from the keyboard in the input line

**If the result of evaluating the expression has not been assigned to any other variable, then MatLab always stores it in a variable**

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- 1.yes
- 2. no

**What extension do m-files have in MatLab**

- 1.mat extension
- 2. extension. T
- 3.extension. f

**What type of M-files can take input data as a set of input parameters and produce results as a set of output values**

- 1.program file
- 2.file functions

**Is it correct to say that the variables defined in the file function, after its execution, become available in the workspace and can be used in other file functions?**

1. yes
2. no

**The created m-file can be saved**

1. only in the current working directory
2. in any directory for which the search path is set in MatLab
3. in any directory, regardless of whether it is in the search path

**Choose which of the following statements is true**

1. the name of the m-file in which the file-function is stored can be the same as the name of any variable or MatLab command, since all the variables specified in the file-function are local
2. the name of the m-file in which the function file is stored must be unique and must not be the same as the function name
3. the name of the m-file in which the file-function is stored must be unique and must necessarily match the name of the function

**Whether it is allowed to call the created file-function from other file-programs or file-functions**

1. yes
2. no

**What command should be entered into the command window to call the m-file editor of the MatLab system**

1. edit command
2. cd command
3. pwd command

**What command should be entered into the command window to call the m-file editor of the MatLab system**

1. edit command
2. cd command
3. pwd command

**What color the m-file editor uses by default to highlight syntax errors in the program code**

1. blue
2. red
3. green

**What symbol allows you to designate a program block as a separate fragment**

1. % symbol
2. %% symbol
3. %%% symbol

**How to bring up the dialog used to set search paths**

1. using the FilePreferences command
2. via the FileSet Path command
3. the FileImport Data command

**To get the maximum possible value in MatLab, presented in single precision format, you need to enter the command in the command line**

1. realmax
- (double') 2. realmin
- (single') 3. realmax
- (single')

**How many bytes is required to store each element of a boolean array**

1. 1 byte
2. 2 bytes
3. 4 bytes

**For storing a matrix with zero elements in sparse format**

- 1.requires more memory than storing a matrix in normal form (including all zero and non-zero elements)
- 2.requires less memory than storing a matrix in its usual form (including all zero and non-zero elements)

**Which array element is the element k (2, 2) = {'magic'}**

- 1.cell array
- 2.array structures
- 3.character array

**If information can be presented in the form of a table with fields containing data of the same type, then to store such information, use**

- 1.cell arrays
- 2.arrays of structures
- 3.numeric arrays

**To remove an unnecessary field in an array of structures, use the function**

- 1.fieldnames
2. getfield
- 3.RMF ield

**Which of the following ways of setting a symbolic variable is erroneous in MatLab**

- 1.setting the numeric character code as an argument to the char function
- 2.enter the desired character in apostrophes
- 3.type the required character in curly braces

**What function allows you to execute a command formed as a string of characters**

- 1.eval
- 2.feval

**When substituting a variable value in an expression, after the substitute keyword in the placeholder, type**

- 1.boolean expression
- 2.variable
- 3.formula
- 4.constant

**To carry out analytical differentiation, the symbol is used**

- one.
2. =
3.  $\approx$
4.  $\div$

**Instead of the differentiation operator placeholder, you need to enter**

- 1.function depending on the argument and the name of the argument
- 2.function name and argument name
- 3.the name of the derived function and the name of the argument
- 4.there is no correct answer in the list

**Instead of placeholders for the integration operator, it is required to enter**

- 1.function depending on the argument, the name of the argument and the limits of integration
- 2.function name, argument name and integration limits
- 3.the name of the derived function and the name of the argument
- 4.there is no correct answer in the list

**To carry out analytical differentiation, the symbol is used**

1. =
2.  $\approx$
- 3.there is no correct answer in the list

**If the integral diverges, then**

- 1.the error message is issued
- 2.the divergent integral is calculated
- 3.3.integral is replaced by convergent
- 4.4.there is no correct answer in the list

**To move a document design element, you need it**

- 1.select and drag using mouse
- 2.copy and paste to the desired location
- 3.remove and paste in the desired location
- 4.there is no correct answer in the list

**To resize a document element you need**

- 1.select and stretch (or shrink) by pulling the black rectangles on the borders of the selection area
- 2.Draw the mouse several times within the element area
3. transfer the document element to Word and resize there
- 4.there is no correct answer in the list

**Color highlighting is done using**

- 1.Part Item Properties of the Format menu
- 2.Formatting pane
- 3.The Refresh item of the View menu
- 4.there is no correct answer in the list

**To create a text region, you need to enter the symbol**

1. double quote
- 2.colon
- 3.opening square bracket
4. apostrophe

**To format text in Matlab use**

- 1.formatting panel
- 2.Standard panel
- 3.Format item of the main menu
- 4.there is no correct answer in the list

**To set a paragraph, use**

- 1.markers on the ruler
- 2.Format item of the main menu
- 3.formatting panel
- 4.there is no correct answer in the list

**The number of copies when the document is saved is set in the window**

- 1.in the document print window
- 2.in the setup page options window
- 3.Command Print
- 4.there is no correct answer in the list

**To get the maximum possible value in MatLab, presented in single precision format, you need to enter the command in the command line**

- 1.realmax ('double')
- 2.realmin ('single')
- 3.realmax ('single')

**How many bytes is required to store each element of a boolean array**

- 1 byte
- 2 bytes
- 4 bytes

**For storing a matrix with zero elements in sparse format**



- 1.requires more memory than storing a matrix in normal form (including all zero and non-zero elements)
- 2.requires less memory than storing a matrix in its usual form (including all zero and non-zero elements)

**Which function allows you to create a template of a cell array (an array of a given size with empty cells)**

- 1.cellldisp function
- 2.cell function
- 3.struct

**If information can be presented in the form of a table with fields containing data of the same type, then to store such information, use**

- 1.cell arrays
- 2.arrays of structures
- 3.numeric arrays

**To remove an unnecessary field in an array of structures, use the function**

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2. feval

**The Matlab system is**

- 1.Universal mathematical system
- 2.text editor
- 3.algorithmic programming language
- 4.system of work with databases

**Does not apply to analogs of the Matlab system**

1. Basic
2. Mathematica
3. Maple

**The Mathematics panel contains**

- 1.buttons with palettes of commonly used mathematical notation
- 2.math buttons
- 3.lists of math functions
- 4.buttons for programming functions

**Symbol: = in Matlab denotes**

- 1.assignment
- 2.equality
- 3.approximation
- 4.description

**The assignment operation in the Matlab document looks like this:**

- 1.a: = 5
- 2.a = 5
- 3.a; 5
- 4.a: 5

**When entering an assignment character from the keyboard, enter**

- 1.Colon
- 2.semicolon
- 3.space
- 4.equal sign

**To change the format of the result, you need**

- 1.changing the number of characters in the Result Format window
- 2.add zero to the result
- 3.change the precision of calculations
4. enter the initial data with greater accuracy

**Before entering the subscript of the vector element, press the key**

- one. [
2. Shift
3. Alt
- 4.

**A discrete variable allows**

- 1.set a variable to a series of numbers arranged in ascending order with equal steps
- 2.Set the variable the change interval
- 3.change the value of the variable by one
- 4.there is no correct answer in the list

**Built-in functions located on the Calculator palette are entered into the document**

- 1.clicking on the function name
- 2.only by entering the function name from the keyboard
- 3.selecting the function name on the Calculator palette
- 4.there is no correct answer in the list

**If, when specifying a discrete variable, the step is omitted, then**

- 1.step is considered equal to 1
- 2.
- 3.step is considered equal to 0
- 4.step is considered equal to 0.5
5. Error message

**Numeric constant TOL is intended for**

- 1.setting the accuracy for approximate calculations \*
- 2.setting the number of characters when displaying the result
- 3.setting the accuracy of the initial data
- 4.setting the number of displayed results

**To obtain a table of values of the function  $f(x)$  in a given discrete variable range, enter**

1. $f(x) =$
2. $f(x): =$
3. $f(x)$  and press the Tab key
4. $f(x)?$

**A discrete variable allows**

- set a variable to a series of numbers arranged in ascending order with equal steps
- set variable to change interval
- change the value of a variable by one
- there is no correct answer in the list

**Built-in functions located on the Calculator palette are introduced into the document**

- by clicking on the function name
- only by entering the function name from the keyboard
- by highlighting the function name in the Calculator palette
- there is no correct answer in the list

**If, when specifying a discrete variable, the step is omitted, then**

- step is considered equal to 1
- step is considered equal to 0
- the step is considered equal to 0.5
- Error message

**The numeric constant TOL is for**

- setting the accuracy for approximate calculations \*
- setting the number of characters when displaying the result
- setting the accuracy of the source data
- setting the number of displayed results

**To get a table of values of the function  $f(x)$  in a given discrete variable range, enter**

- $f(x) =$
- $f(x) :=$
- $f(x)$  and press the Tab key
- $f(x)?$

**User function**

- must be described before first use \*
- can be described anywhere in the document
- need not describe
- there is no correct answer in the list

**The input cursor is marked with**

- red cross
- horizontal red line
- red vertical line
- there is no correct answer in the list

**The character placeholder is**

- black rectangle in which the character should be entered according to the format
- black rectangular frame into which it is fashionable to enter a formula
- red rectangle in which the error message is displayed
- there is no correct answer in the list

**You can use the key to navigate from one placeholder to another.**

- TAB
- HOME
- END
- there is no correct answer in the list

**To remove a part of the formula, you need**

- select this part and press the Del key
- press the Del key
- press the Backspace key
- There is no correct answer in the list.

**To start entering text directly into the computational area, enter**

- symbol "
- symbol /
- symbol \
- symbol ?

**At the location marked with the cursor, the chart template appears by**

- clicking on the appropriate template in the Graph
- panel drag-and-drop chart template
- double-click on the location marked with the cursor
- there is no correct answer in the list

**If the function argument is not described when plotting the graph, then**

by default, the graph will be built in the range from -10 to 10 with a step of 1  
by default, the graph will be built in the range from -1 to 1 with a step of 0.1 an error message will appear  
there is no correct answer in the list

**When plotting 2 or more graphs in one template, the names of the functions are entered**

comma separated  
colon separated  
through a space

there is no correct answer in the list

**To delete a schedule, you need**

activate it by clicking the mouse and press the Del key  
press the Del key  
select the graph with the mouse  
there is no correct answer in the list

**To change the graphic color, symbol or line thickness in the Format chart window, use the**  
tab

Traces  
X-Y Axes  
Labels  
Defaults

**The symbol “->” (arrow) is intended for**

to carry out symbolic calculations  
to enter a comment  
for analytic function transformation  
to calculate the function

**The simplify keyword is used**

☐ when simplifying  
☐ expressions when factoring  
☐ an expression when reducing  
☐ similar terms  
there is no correct answer in the list

**The factor keyword is used**

☐ when factoring an expression  
☐ when simplifying  
☐ expressions when reducing  
☐ similar terms  
there is no correct answer in the list

**The parfrac keyword is used**

☐ when determining the polynomial coefficients  
☐ when simplifying expressions  
☐ when reducing similar terms  
☐ there is no correct answer in the list

**The collect keyword is used**

☐ when reducing similar terms  
☐ when determining the polynomial coefficients  
☐ when simplifying expressions  
☐ there is no correct answer in the list

**For the analytical solution of problems of mathematical analysis, the panel is designed**

☐ Mathematics  
☐ Formatting  
☐ Standard  
☐ Calculator

**To perform the operation of substituting the value of a variable into an expression, use the keyword**

**substitute** ☐ **complex solve laplace**

**When substituting a variable value in an expression, after the substitute keyword in the placeholder, type**

- ☐ boolean expression
- ☐ variable
- ☐ formula
- ☐ constant

**2. To carry out analytical differentiation, use the symbol**

- ☐
- ☐
- ☐
- ☐

**3. Instead of a placeholder for the differentiation operator, you need to enter**

- ☐ function depending on argument and argument name
- ☐ function name and argument name
- ☐ derived function name and argument name
- ☐ there is no correct answer in the list

**4. Instead of placeholders for the integration operator, it is required to enter**

- ☐ function depending on the argument, the name of the argument and the range of integration
- ☐ function name, argument name and limits of integration
- ☐ derived function name and argument name
- ☐ there is no correct answer in the list

**5. To carry out analytical differentiation, the symbol is used**

- ☐ =
- ☐  $\approx$
- ☐ there is no correct answer in the list

**6. If the integral diverges, then**

- ☐ an error message is displayed
- ☐ the divergent integral is calculated
- ☐ the integral is replaced by the convergent
- ☐ there is no correct answer in the list

**7. To move a document design element, you need to**

- ☐ select and drag using mouse
- ☐ copy and paste to the desired location
- ☐ remove and paste at the desired location
- ☐ there is no correct answer in the list

**8. To resize a document element you need**

- ☐ select and stretch (or shrink) by pulling the black rectangles on the borders of the selection area
- ☐ drag the mouse several times within the element area
- ☐ transfer a document element to Word and resize
- ☐ there there is no correct answer in the list

**9. Color selection is made using**

- ☐ Item Properties item of the Format menu
- ☐ Formatting pane
- ☐ of the Refresh item of the View menu item
- ☐ there is no correct answer in the list

**10. To create a text region, you need to enter the symbol**

- ☐ double quote
- ☐ colon
- ☐ open square bracket
- ☐ apostrophe

**11. To format text in Matlab, use**

- ☐ Formatting panel
- ☐ Standard panel
- ☐ Format item of the main menu
- ☐ there is no correct answer in the list

**12. To set a paragraph, use**

- ☐ markers on the ruler
- ☐ Format item of the main menu
- ☐ Formatting panel
- ☐ there is no correct answer in the list

**13. The number of copies when the document is sad is set in the window**

- ☐ in the document print window
- ☐ in the page options setup window
- ☐ with the Print command
- ☐ there is no correct answer in the list