Приложение 5.1.

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| **ЛИСТ САМОПРОВЕРКИ****I уровень** |
| **I** | **II** |
| 1. **lgх = 2**

ОДЗ: х> 0х = 102х = 100, 100 > 0Ответ: 100 | 1. **lgх = 3**

ОДЗ: х> 0х = 103х = 1000, 1000 > 0Ответ: 1000 |
| 1. **log3(4 + х) = 3**

ОДЗ: 4 + х> 0, х> - 4 4 + х = 334 + х = 27х = 27 – 4х = 23, 23 > 0Ответ: 23 | **2.log5 (6 + х) = 2**ОДЗ: 6 + х> 0, х> - 6 6 + х = 52 6+ х = 25х = 25 – 6х = 19, 19 > 0Ответ: 19 |
| **3.log7(8 – х) = 2**ОДЗ: 8 – х> 0, -х> - 8, х < 8 8 – х = 72 8 – х = 49 - х = 49 – 8 - х = 41 х = - 41, -41 < 8Ответ: - 41 | **3.log6(х – 5) = 2**ОДЗ: х – 5 > 0, х > 5х – 5 = 6 2х – 5 = 36 х = 36 + 5х = 41, 41> 5 Ответ: 41 |
| 1. **log7(9 + х) = log72**

ОДЗ: 9 + х > 0, х > - 99 + х = 2х = 2 – 9х = - 7 , - 7 > -9Ответ: - 7 | **4.log5(1 + х) = log54**ОДЗ: 1 + х > 0, х > - 11 + х = 4х = 4 – 1х = 3 , 3 > -1Ответ: 3 |
| 1. **log1/7 (х + 7) = -2**

ОДЗ: х + 7 > 0, х > - 7х + 7 = ($\frac{1}{7}$) - 2х + 7 = 49 х = 49 – 7 х = 42, 42 > - 7 Ответ: 42 | **5.log1/5 (5 – х) = -2**ОДЗ: 5 – х> 0, -х> - 5, х < 5 5 – х = ($\frac{1}{5}$) -2 5 – х = 25 - х = 25 – 5 - х = 20 х = - 20, - 20 < 5Ответ: - 20 |

Приложение 5.2.

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| **ЛИСТ САМОПРОВЕРКИ****II уровень** |
| **I** | **II** |
| 1. log2(2х – 7) = log2х

ОДЗ: 2х – 7 > 0, 2х > 7, х > 3,5, х > 3,5 х > 0, х > 0, х > 0.2х – 7 = х2х – х = 7х = 7, 7 > 3,5Ответ: 7 | 1. log7(3х – 8) = log7х

ОДЗ: 3х – 8 > 0, 3х > 8, х > 8/3, х >2 $\frac{2}{3}$ х > 0, х > 0, х > 0.3х – 8 = х3х – х = 82х = 8 х = 4, 4 >2 $\frac{2}{3}$Ответ: 4 |
| 1. log2(3х – 6) = log2 (2х – 3)

ОДЗ: 3х – 6 > 0, 3х > 6, х > 2, х > 2 2х - 3 > 0, 2х > 3, х > 1,5.3х – 6 = 2х – 3 3х – 2х = 6 – 3 х = 3, 3 > 2Ответ: 3 | 1. log6(14 – 4х) = log6 (2х + 2)

ОДЗ: 14 – 4х > 0, -4х >-14, х < 3,5, -1< х< 3,5 2х + 2 > 0, 2х >-2, х > - 1.14 – 4х = 2х + 2– 4х – 2х = – 14 + 2– 6х = – 12, 3 > 2х = -12 : ( - 6)х = 2, -1< 2< 3,5Ответ: 2 |
| 1. log2 х – log23 = log25, ОДЗ: х > 0

log2 х = log23 + log25 log2 х = log215х = 15, 15 > 0Ответ: 15 | 1. log74 = log7 х – log79, ОДЗ: х > 0

 log74 + log79= log7 х  log736= log7 х х = 36, 36 > 0 Ответ: 36 |
| 1. log3 (х – 2) + log3 (х +2) = log3(2х –1)

ОДЗ: х – 2 > 0, х > 2, х > 2 х + 2 > 0, х > - 2, 2х – 1 > 0, х > 0,5.(х – 2)(х +2) = 2х – 1 х2 – 4 = 2х – 1х2 – 2х – 3 = 0D = 16 х1 = 3, х2 = -1 3 > 2, -1 > 2Ответ: 3 | 1. log0,6 (х +3) + log0,6 (х–3)=log0,6(2х –1)

ОДЗ: х + 3 > 0, х > - 3, х > 3 х – 3 > 0, х > 3, 2х – 1 > 0, х > 0,5.(х +3) (х – 3) = 2х – 1 х2 – 9 – 2х + 1 = 0х2 – 2х – 8 = 0D = 36 х1 = 4, х2 = -1 4 > 3, -1 > 3Ответ: 4 |

Приложение 5.3.

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| **ЛИСТ САМОПРОВЕРКИ****III уровень** |
| **I** | **II** |
|  21. 2log5 х – 5log5 х + 2 = 0, ОДЗ: х > 0

log5 х = t2 t2 - 5 t + 2 = 0D = 9 t 1 = $\frac{1}{2}$ , t2 = 2 log5 х = $\frac{1}{2} $ log5 х =2 х = 51/2 х = 52 х = $\sqrt{5}$ , $\sqrt{5}$ > 0 х = 25, 25> 0Ответ: $\sqrt{5}$ и 25 |  21. 3log4 х – 7log4 х + 2 = 0, ОДЗ: х > 0

log4 х = t3 t2 - 7 t + 2 = 0D = 25 t 1 = $\frac{1}{3}$ , t2 = 2 log4 х = $\frac{1}{3} $ log4 х =2 х = 41/3 х = 42 х = $\sqrt[3]{4}$ , $\sqrt[3]{4}$ > 0 х = 16, 16> 0Ответ: $\sqrt[3]{4}$ и 16  |
|   21. log1/2 х + 3log1/2 х + 2 = 0, ОДЗ: х > 0

log1/2 х = t t2 + 3 t + 2 = 0D = 1 t 1 = - 2 , t2 = - 1 log1/2 х = - 2 log1/2 х = - 1 х = ($\frac{1}{2})$-2 х = ($\frac{1}{2})$-1 х = 4, 4 > 0 х = 2, 2> 0Ответ: 2 и 4  |   21. 3log1/2 х + 5log1/2 х – 2 = 0, ОДЗ: х > 0

log1/2 х = t 3t2 + 5t – 2 = 0D = 49 t 1 = - 2 , t2 = $\frac{1}{3}$  log1/2 х = - 2 log1/2 х = - 1 х = ($\frac{1}{2})$-2 х = ($\frac{1}{2})$1/3 х = 4, 4 > 0 х =$\sqrt[3]{1/2}$ , $\sqrt[3]{1/2}$> 0Ответ: $\sqrt[3]{1/2} $ и 4  |
|   21. log2 х – log√2 х – 3 = 0, ОДЗ: х > 0

 2 log2 х – 2log2 х – 3 = 0log2 х = t t2 – 2t – 3 = 0D = 16t 1 = - 1 , t2 = 3log2 х = -1 log2 х = 3 х = 2 -1 х = 23 х = $\frac{1}{2}$ , $\frac{1}{2}$ > 0 х = 8, 8> 0Ответ:$ \frac{1}{2}$ и 8 |   21. log3 х – log√3 х – 3 = 0, ОДЗ: х > 0

 2 log3 х – 2log3х – 3 = 0log3 х = t t2 – 2t – 3 = 0D = 16t 1 = - 1 , t2 = 3log3 х = -1 log3 х = 3 х = 3 -1 х = 33 х = $\frac{1}{3}$ , $\frac{1}{3}$ > 0 х = 27, 27> 0Ответ:$ \frac{1}{3}$ и 27 |