- 5 -

ЗАДАНИЯ ДЛЯ САМОПРОВЕРКИ

Укажите методы решения данных уравнений**.**

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| 1. **х (х + 1) (х2 + х + 1) = 6**
2. **2х4 + 3х3 – 24х2 – 3х + 2 = 0**
3. **(х – 1)4 + 9(х + 1)4 = 10(х2 – 1)2**
4. **(х – 2)(х + 1)(х + 4)(х + 7) = 63**
5. $\frac{ 4х}{4х^{2} – 8х + 7 }$ **+** $\frac{3х}{4х^{2} – 10х + 7}$ **= 1**
6. **х4 + 4х3 + 3х2 + 2х – 1 = 0**
7. **х3 + 7х2 – 56х + 48 = 0**
8. **х4 + 3х3 – 5х2 – 13х + 6 = 0**
9. **(х + 3)4 + (х + 5)4 = 16**
10. $\frac{ х-3}{ х-1 }$ **+** $\frac{х +3}{х + 1}$ **=** $\frac{ х+6}{ х+2 }$ **+** $\frac{х -6}{х -2}$
11. **х3 – (√2 + 1)х2 + 2 = 0**
12. **(х – 1)5 + (х + 3)5 = 242 (х + 1)**
13. **х3 – 5х2 – 2х + 16 = 0**

1. **1 + \_\_1 \_\_ = 10**

 **х2 (х + 2)2 9**1. **(х2 – 16)(х – 3)2 + 9х2 = 0**
2. $\frac{х^{2}- 12х+15}{х^{2} – 6х + 15 }$ **=** $\frac{4х}{х^{2} – 10х + 15}$
3. **4(х + 5)(х + 6)(х + 10)(х + 12) = 3х2**
4. **6х4 + 19х3 – 17х2 – 26х + 12 = 0**
5. **4х3 + 12х2 + 11х + 3 = 0**
6. $\frac{х^{2}+ 4}{х}$ **+** $\frac{х^{}+ 4}{х^{2 +3}х+4 }$ **= -** $\frac{11}{2}$
7. **(х2 + 2х)2 – (х + 2)(2х2 – х) = 6(2х – 1)2**
8. **12х4 – 16х3 – 11х2 – 16х +12= 0**
9. $ \left(\frac{х}{х+1}\right)^{2} $ **-** $\left(\frac{х+1}{х}\right)^{2}$ **=** $\frac{3}{2}$
10. $\left(\frac{х+1}{х-1}\right)^{2} $ **- 4** $\left(\frac{х+1}{х}\right) + 3\left(\frac{х-1}{х}\right)^{2}^{}$ **= 0**
11. **(х2 - 5х + 4)(х2 – 5х + 6) = 120**
12. **(х2 – х)2 – х2 + х – 2 = 0**
13. **6х4 – 5х3 – 38х2 – 5х + 6 = 0**
14. **х4 + 2х3 – 13х2 – 38х – 24 = 0**
15. **х4 + 27х2 – 14х + 120 = 0**
16. **4х4 + 8х3 –х2 – 8х – 3 = 0**
17. **х2 +** $\left(\frac{х}{х-1}\right)^{2}$ **= 8**
18. **(6 – х)4 + (8 – х)4 = 16**
19. $\frac{z + 4}{z – 1}$ **+** $\frac{z- 4}{z+ 1}$ **=** $\frac{z + 8}{z – 2}$ **+** $\frac{z- 8}{z+ 2}$ **+ 6**
20. **х4 – 8х3 + 15х2 + 4х – 20 = 0**
21. **х4 – 9х3 + 9х2 + 41х – 42 = 0**
22. **21х3 + 80х2 + 53х + 6 = 0**
23. **(х + 2)(х + 3)(х + 8)(х + 12) = 4х2**
24. **(х2 + х + 1)2 – 3х2 – 3х – 1 = 0**
25. **х4 – 10х3 + 35х2 – 50х + 24 =0**
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