**Приложение 1.**

1. $log\_{х}\sqrt{3}$ = - 1;

2. $log\_{2\sqrt{2}}16х$ = 4;

3. 2$log\_{t}\frac{1}{8}+3=0;$

4. $\frac{1}{2}log\_{х}\frac{1}{25}+1=\frac{2}{3};$

5. -$ log\_{х}625=4;$

6. $log\_{\frac{1}{\sqrt{7\sqrt[3]{7}}}}х=-\frac{3}{4};$

7. $log\_{х}4= - \frac{1}{2}$;

8. $log\_{sinх}\frac{3}{4}$ = 2;

9. $log\_{cos⁡х}\frac{1}{2}=2;$

10. $log\_{log\_{2}х}2=2;$ …

**Приложение 2.**

1. $2log\_{4}\left(2х-1\right)=1;$

2. $log\_{7}\left(х^{2}-2х+1\right)=2;$

3. $log\_{\left(х-2\right)}\left(х^{3}-14\right)=3;$

4. $log\_{4}log\_{3}log\_{2}х=\frac{1}{2}$;

5. $log\_{9}\left(log\_{3}^{2 }\left(2х+3\right)\right)=1;$

6. $\frac{log\_{2}\left(2х-5\right)}{log\_{2}\left(х^{2}-8\right)}= \frac{1}{2}.$

7. $ log\_{sinх}\left(1-cosх\right)$=2;

8. $log\_{2sinх}\left(10+14cosх\right)=2;$

9. $log\_{\left|х-1\right|}\left(2х-2\right)^{2}=2;$

10.$4^{log\_{2}\left(х-2\right)}=9;$ …

**Приложение 3.**

1. 2$log\_{4}^{2 }х-log\_{4}х^{3}$+1=0;

2. $log\_{2 }^{2}\left(4х\right)$ + $log\_{2}\frac{х^{2}}{16}$ – 7 =0;

3. $log\_{2}\left(9-2^{х}\right)= 10^{lg\left(3-х\right)};$

4. $log\_{2 }^{2}\left(х^{2}-6х+9\right)$= 2$\left(1+log\_{2}\left(3-х\right)\right);$

5. $\frac{log\_{3}\frac{х}{3}}{log\_{3}х-1}$+ 2$log\_{3}\sqrt{х}$ + $log\_{3}^{2 }х=3;$

6. $log\_{2}х^{4 }$+ 2$log\_{4х^{2}}8=4;$

7. lglgх + lg(lg$х^{3}$- 2) =0;

8. 2lglgх = lg(7 – 2lgх) – lg5;

9.$\frac{1+lg\left(х-1\right)}{1-lg^{2}\left(х-1\right)}+\frac{1}{1-lg\left(х-1\right)}=1;$

10. 3$log\_{3}^{2 }х-4log\_{3}\left(2х-1\right)log\_{3}х+ log\_{3}^{2 }\left(2х-1\right)=0;$ …

**Приложение 4.**

1. $х^{log\_{3}х-2}=27;$

2. $х^{2-lg\left(\frac{х}{2}\right)}=20;$

3. $\sqrt{х^{lg\sqrt{х}}}$= 10;

4. $х^{log\_{2}\sqrt{х}}=16х;$

5. $\frac{10^{2 }х^{3lg^{2}х}}{х^{4}}= \frac{х^{5lgх}}{10^{2}}$

6. $х^{\frac{lgх+7}{4}}= 10^{lgх+1};$

7. $16^{\frac{х-1}{х}}∙ 5^{х}=100;$

8. $5^{х} ∙ 8^{\frac{х-1}{х}}$ = 500;

9. $\left(\sqrt[3]{х}\right)^{х}= х^{\sqrt[3]{х}}$;

10. $х^{log\_{2}\frac{х}{98}}∙х^{log\_{2}7}$=1; …

**Приложение 5.**

1. 3х$log\_{3}х+2= log\_{27}х^{3}$+ 6х;

2. $\left(log\_{4}\left(2х+9\right)+1\right)∙ log\_{\left(х+2\right)}2=1;$

3. $log\_{2}х∙log\_{2}\left(х-3\right)$ + 1 = $log\_{2}\left(х^{2}-3х\right)$;

4. $lg^{2}\left(х+1\right)=lg\left(х+1\right)∙lg\left(х-1\right)+2lg^{2}\left(х-1\right);$

5. $lg^{2}\left(1-х\right)+lg\left(1-х\right)∙lg\left(1+х\right)=2lg^{2}\left(х+1\right);$

6. х$ ∙log\_{3}\left(х^{4}\right)$ + 1 = 4х + 2$log\_{9}х;$

7. 3$log\_{х^{2 }}^{2}3-4log\_{х^{3}}\sqrt{3}$ + $log\_{х^{6}}3-2=0;$

8. 3$log\_{2}^{2}sinх+ log\_{2}\left(1-cos2х\right)=2;$

9. 3$log\_{2}х^{2}$ - $log\_{2}^{2}\left(-х\right)$ = 5;

10. $х^{2}log\_{6}\sqrt{5х^{2}-2х-3}$ – х $log\_{\frac{1}{6}}\left(5х^{2}-2х-3\right)= х^{2}+2х;$ …

**Приложение 6.**

1. lgх + $\sqrt{х^{2}-1}$ = 0;

2. $log\_{2}\left(х^{2}+3\right)+\sqrt{х^{2}-1}$ = 2;

3. $log\_{2}\left(4-х\right)$= х – 3;

4. $log\_{\frac{1}{3}}х=х-4;$

5. $log\_{3}\left(3^{х}-8\right)=2-х;$

6. 1 – lnх= $\sqrt{2-х^{2}}$;

7. $\sqrt{15-4х}$ = $log\_{2}\left(х-3\right);$

8. 2$log\_{2}\left(\frac{4}{х}+\frac{х}{4}\right)^{7}$= $-х^{2}+8х-2;$

9. $3^{х}$ = 10 - $log\_{2}х;$

10. $log\_{3}\left(\frac{1}{3}-\left|\frac{3π}{2}-πх\right|\right)=sinπх;$…