

**Вычислите значение выражения**  
**III (профильный уровень)**

	<b>Выражения</b>	<b>Ответы</b>
1.	$2^{\log_{\sqrt{2}}\left(\cos\frac{\pi}{8}+\sin\frac{\pi}{8}\right)+\log_{\sqrt{2}}\left(\cos\frac{\pi}{8}-\sin\frac{\pi}{8}\right)}$	0,5
2.	$8^{\sqrt{-\log_{\frac{2}{\sqrt{3}}}\left(\cos\frac{\pi}{12}-\sin\frac{\pi}{12}\right)-\log_{\frac{2}{\sqrt{3}}}\left(\cos\frac{\pi}{12}+\sin\frac{\pi}{12}\right)}}$	8
3.	$12 \cdot \log_{\frac{1}{2}}\left(8 \cdot \log_3 \cos \frac{\pi}{6} - 8 \cdot \log_3 \sin \frac{\pi}{6}\right)$	-24
4.	$7 \cdot \log_2\left(4 \cdot \log_3 \sin \frac{\pi}{3} - 4 \cdot \log_3 \cos \frac{\pi}{3}\right)$	7
5.	$9 \cdot \log_2 \sqrt{2 \cdot \operatorname{tg} \frac{7\pi}{4} + 8 \cos \frac{5\pi}{3}}$	4,5
6.	$\frac{1}{4} \cdot \log_{\sqrt{2}} \sqrt{3 \cdot \operatorname{tg} \frac{5\pi}{4} + 2 \sin \frac{7\pi}{6}}$	0,25
7.	$\sqrt{2} \cos \left( \frac{\pi}{8} \left( \log_3 \frac{1}{9} + 4 \log_{\frac{1}{3}} \frac{1}{3} \right) \right)$	1
8.	$4 \sin \left( \frac{\pi}{6} \left( \log_4 \frac{1}{16} + \log_{\frac{1}{4}} \frac{1}{4} \right) \right)$	-2
9.	$\log_2 \sin \frac{\pi}{6} + \log_2 \cos \frac{7\pi}{4} + \log_2 \operatorname{tg} \frac{5\pi}{4}$	-1,5
10.	$\log_{\sqrt{2}} \sin \frac{\pi}{4} - \log_{\sqrt{2}} \cos \frac{5\pi}{3} - \log_{\sqrt{2}} \operatorname{tg} \frac{\pi}{4}$	1
11.	$2 \cdot \log_2 \left( 2 \sin \frac{\pi}{8} \right) + 2 \cdot \log_2 \cos \frac{\pi}{8}$	-1
12.	$3 \cdot \log_{\sqrt{2}} \left( 2 \cos \frac{\pi}{8} \right) + 3 \cdot \log_{\sqrt{2}} \sin \frac{\pi}{8}$	-3
13.	$5 \cdot \sqrt[3]{\log_{\sqrt{2}} \left( 2 \sin \frac{\pi}{8} \right) + \log_{\sqrt{2}} \left( \cos \frac{\pi}{8} \right)}$	-5
14.	$\sqrt[3]{4 \cdot \log_{2^{-1}} \left( \sin \frac{\pi}{12} \right) + 4 \cdot \log_{2^{-1}} \left( \cos \frac{\pi}{12} \right)}$	2
15.	$6 \cdot \log_3 \operatorname{tg} 30^\circ - 4 \cdot \log_2 \cos \frac{\pi}{3} + \log_2 \sin \frac{5\pi}{6}$	0
16.	$4 \cdot \log_2 \cos \frac{\pi}{4} - 3 \cdot \log_3 \operatorname{ctg} 30^\circ + \log_4 \sin \frac{3\pi}{4}$	-3,75