|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  **\alpha \,\!** | **0°(0 рад)** | **30° (π/6)** | **45° (π/4)** | **60° (π/3)** | **90° (π/2)** | **180° (π)** | **270° (3π/2)** | **360° (2π)** |
|  \sin \alpha \,\! | {0} \,\! |  \frac{1}{2}\,\! |  \frac{ \sqrt{2}}{2}\,\! |  \frac{ \sqrt{3}}{2}\,\! | {1}\,\! | {0}\,\! | {-1}\,\! | {0}\,\! |
|  \cos \alpha \,\! | {1} \,\! |   \frac{ \sqrt{3}}{2}\,\! |  \frac{ \sqrt{2}}{2}\,\! |  \frac{1}{2}\,\! | {0}\,\! | {-1}\,\! | {0}\,\! | {1}\,\! |
|  \mathop{\mathrm{tg}}\, \alpha \,\! | {0} \,\! |  \frac{1}{ \sqrt{3}}\,\! |  {1}\,\! |   \sqrt{3}\,\! | N/A | {0}\,\! | N/A | {0}\,\! |
|  \mathop{\mathrm{ctg}}\, \alpha \,\! | N/A |   \sqrt{3}\,\! | {1} \,\! |  \frac{1}{ \sqrt{3}}\,\! |  {0}\,\! | N/A | {0}\,\! | N/A |
|  \sec \alpha \,\! | {1} \,\! |   \frac{2}{ \sqrt{3}}\,\! |   \sqrt{2}\,\! |  {2}\,\! | N/A | {-1}\,\! | N/A |  {1}\,\! |
|  \operatorname{cosec}\, \alpha \,\! | N/A |  {2}\,\! |   \sqrt{2}\,\! |  \frac{2}{ \sqrt{3}}\,\! | {1}\,\! | N/A | {-1}\,\! | N/A |



**Значения тригонометрических функций нестандартных углов**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| \alpha\, | \frac{\pi}{12} = 15^\circ | \frac{\pi}{10} = 18^\circ | \frac{\pi}{8} = 22.5^\circ | \frac{\pi}{5} = 36^\circ | \frac{3\,\pi}{10} = 54^\circ | \frac{3\,\pi}{8} = 67.5^\circ | \frac{2\,\pi}{5} = 72^\circ |
| \sin \alpha\, | \frac{\sqrt{3}-1}{2\,\sqrt{2}} | \frac{\sqrt{5}-1}{4} | \frac{\sqrt{2-\sqrt{2}}}{2} | \frac{\sqrt{5-\sqrt{5}}}{2\,\sqrt{2}} | \frac{\sqrt{5}+1}{4} | \frac{\sqrt{2+\sqrt{2}}}{2} | \frac{\sqrt{5+\sqrt{5}}}{2\,\sqrt{2}} |
| \cos \alpha\, | \frac{\sqrt{3}+1}{2\,\sqrt{2}} | \frac{\sqrt{5+\sqrt{5}}}{2\,\sqrt{2}} | \frac{\sqrt{2+\sqrt{2}}}{2} | \frac{\sqrt{5}+1}{4} | \frac{\sqrt{5-\sqrt{5}}}{2\,\sqrt{2}} | \frac{\sqrt{2-\sqrt{2}}}{2} | \frac{\sqrt{5}-1}{4} |
| \operatorname{tg}\,\alpha | 2-\sqrt{3} | \sqrt{1-\frac{2}{\sqrt{5}}} | \sqrt{2}-1 | \sqrt{5-2\,\sqrt{5}} | \sqrt{1+\frac{2}{\sqrt{5}}} | \sqrt{2}+1 | \sqrt{5+2\,\sqrt{5}} |
| \operatorname{ctg}\,\alpha | 2 + \sqrt{3} | \sqrt{5+2\,\sqrt{5}} | \sqrt{2}+1 | \sqrt{1+\frac{2}{\sqrt{5}}} | \sqrt{5-2\,\sqrt{5}} | \sqrt{2}-1 | \sqrt{1-\frac{2}{\sqrt{5}}} |