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θ (deg)	θ (rad)	$\sin\theta$	n_s (%)	$\tan\theta$	n_t (%)
5	0.0873	0.0872	+0.1270	0.0875	-0.254
10	0.1745	0.1736	+0.510	0.1763	-1.017
20	0.3491	0.3420	+2.06	0.3640	-4.09

$$\begin{cases} \text{Error} \quad n_s = \dfrac{\theta - \sin\theta}{\sin\theta}(100\%) \\ \text{Error} \quad n_t = \dfrac{\theta - \tan\theta}{\tan\theta}(100\%) \end{cases}$$

The magnitude of both errors increases as θ increases. The approximation $\sin\theta \cong \theta$ is better than the approximation $\tan\theta \cong \theta$, because the former involves the approximation that $s = \theta$ is the vertical side of the triangle, whereas the latter, <u>in addition</u>, involves the approximation that 1 is the horizontal side of the triangle.