$$\lim_{x\to 0}\left(\frac{1+\sin(x)*\cos(\alpha*x)}{1+\sin(x)*\cos(\beta*x)}\right)^{ctg^3 x} =$$

$$\lim_{x\to 0}\left(1+\frac{\sin(x)*\cos(\alpha*x)-\sin(x)*\cos(\beta*x)}{1+\sin(x)*\cos(\beta*x)}\right)^{\frac{\cos^3 x}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1+\sin(x)*\frac{\cos(\alpha*x)-\cos(\beta*x)}{1+\sin(x)*\cos(\beta*x)}\right)^{\frac{1}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1+\sin(x)*\frac{\cos(\alpha*x)-\cos(\beta*x)}{1}\right)^{\frac{1}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1-2\sin(x)*\sin\left(\frac{(\alpha+\beta)*x}{2}\right)\sin\left(\frac{(\alpha-\beta)*x}{2}\right)\right)^{\frac{1}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1-2*\sin(x)*\frac{(\alpha+\beta)}{2}\frac{(\alpha-\beta)}{2}\sin(x)*\sin(x)\right)^{\frac{1}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1-\sin^3(x)*\frac{(\alpha^2-\beta^2)}{2}\right)^{\frac{1}{\sin^3 x}} =$$

$$\lim_{x\to 0}\left(1-\sin^3(x)*\frac{(\alpha^2-\beta^2)}{2}\right)^{\left(\frac{1}{-\sin^3 x*\frac{(\alpha^2-\beta^2)}{2}}\right)*\left(-\frac{(\alpha^2-\beta^2)}{2}\right)} = e^{-\frac{(\alpha^2-\beta^2)}{2}} = e^{-\frac{\alpha^2}{2}}*e^{\frac{\beta^2}{2}}$$