삼각함수의 덧셈정리

① $\sin(\alpha+\beta)=\sin\alpha\cos\beta+\cos\alpha\sin\beta$ ② $\sin(\alpha-\beta)=\sin\alpha\cos\beta-\cos\alpha\sin\beta$

③ $\cos(\alpha+\beta)=\cos\alpha\cos\beta-\sin\alpha\sin\beta$ ④ $\cos(\alpha-\beta)=\cos\alpha\cos\beta+\sin\alpha\sin\beta$

⑤ $\tan(\alpha+\beta)=\dfrac{\tan\alpha+\tan\beta}{1-\tan\alpha\tan\beta}$ ⑥ $\tan(\alpha-\beta)=\dfrac{\tan\alpha-\tan\beta}{1+\tan\alpha\tan\beta}$

2배각공식

① $\sin2\theta=2\sin\theta\cos\theta$ ② $\cos2\theta=\cos^2\theta-\sin^2\theta=2\cos^2\theta-1=1-2\sin^2\theta$ ③ $\tan2\theta=\dfrac{2\tan\theta}{1-\tan^2\theta}$

3배각공식

① $\sin3\theta=3\sin\theta-4\sin^3\theta$ ② $\cos3\theta=4\cos^3\theta-3\cos\theta$

반각공식

① $\sin^2\dfrac{\theta}{2}=\dfrac{1-\cos\theta}{2}$ ② $\cos^2\dfrac{\theta}{2}=\dfrac{1+\cos\theta}{2}$ ③ $\tan^2\dfrac{\theta}{2}=\dfrac{1-\cos\theta}{1+\cos\theta}$

곱을 합, 차로 변형하는 공식

① $\sin\alpha\cos\beta=\dfrac{1}{2}\{\sin(\alpha+\beta)+\sin(\alpha-\beta)\}$ ② $\cos\alpha\sin\beta=\dfrac{1}{2}\{\sin(\alpha+\beta)-\sin(\alpha-\beta)\}$

③ $\cos\alpha\cos\beta=\dfrac{1}{2}\{\cos(\alpha+\beta)+\cos(\alpha-\beta)\}$ ④ $\sin\alpha\sin\beta=-\dfrac{1}{2}\{\cos(\alpha+\beta)-\cos(\alpha-\beta)\}$

합, 차를 곱으로 변형하는 공식

① $\sin A+\sin B=2\sin\dfrac{A+B}{2}\cos\dfrac{A-B}{2}$ ② $\sin A-\sin B=2\cos\dfrac{A+B}{2}\sin\dfrac{A-B}{2}$

③ $\cos A+\cos B=2\cos\dfrac{A+B}{2}\cos\dfrac{A-B}{2}$ ④ $\cos A-\cos B=-2\sin\dfrac{A+B}{2}\sin\dfrac{A-B}{2}$