

- 48 2. $\frac{\sin(\alpha + \beta) + \cos(\alpha - \beta)}{\cos(\alpha + \beta) - \sin(\alpha - \beta)} = \underline{\hspace{2cm}}$
- (1) $\frac{\sin \alpha + \cos \alpha}{\cos \alpha - \sin \alpha}$ (4) $\cot \beta + 1$
 (2) $\tan \alpha - 1$ (5) 0
 (3) $\frac{\sin \alpha - \cos \beta}{\sin \beta + \cos \alpha}$
3. $\cos^2(\alpha + \beta) - \cos^2(\alpha - \beta) = \underline{\hspace{2cm}}$
- (1) $-4 \sin \alpha \cos \alpha \sin \beta \cos \beta$ (4) $2 \sin^2 \alpha \sin \beta \cos \alpha$
 (2) $-2 \sin^2 \alpha \sin \beta \cos \alpha$ (5) $4 \sin \alpha \cos \alpha \sin \beta \cos \beta$
 (3) $-\tan \alpha \cot \beta$
4. $\tan \alpha + \cot 2\alpha = \underline{\hspace{2cm}}$
- (1) $\frac{1}{2 \cos \alpha}$ (3) $\cos^2 \alpha - \sin^2 \alpha$
 (2) $2 \sin \alpha \cos \alpha$ (4) $\frac{1}{\sin 2\alpha}$
5. $\frac{\tan 2\alpha + \sin 2\alpha}{\tan 2\alpha} = \underline{\hspace{2cm}}$
- (1) 0 (4) $2 \sin^2 \alpha$
 (2) $1 + \sin \alpha \cos \alpha$ (5) $\cot \alpha + 2$
 (3) $2 \cos^2 \alpha$
6. $\tan(45^\circ + \alpha) - \tan(45^\circ - \alpha) = \underline{\hspace{2cm}}$
- (1) $2 \cot 2\alpha$ (3) $2 \tan 2\alpha$
 (2) $2 \sin 2\alpha$ (4) $\cot^2 2\alpha - 5$
7. $\frac{\tan 2\alpha + \sin 2\alpha}{2 \cos^2 \alpha} = \underline{\hspace{2cm}}$
- (1) $\sin \alpha + \cos 2\alpha$ (4) $\cot 2\alpha$
 (2) $\tan 2\alpha$ (5) 0
 (3) $\cos^2 \alpha - \sin^2 \alpha$
8. $\tan \alpha - \cot \alpha + \cot 2\alpha = \underline{\hspace{2cm}}$
- (1) $\sin \alpha + 1$ (4) $2 \tan \alpha$
 (2) $\cos \alpha - 1$ (5) $-\cot 2\alpha$
 (3) $3 \sin^2 2\alpha$
9. $2 \cos(45^\circ + \alpha) \cos(45^\circ - \alpha) = \underline{\hspace{2cm}}$
- (1) 0 (4) $\cos 2\alpha$
 (2) 2 (5) $\tan 2\alpha + 3$
 (3) $3 \sin 2\alpha - \sin \alpha$