

## 4.6 Reduction Formulas

**391.**

| $\beta$              | $\sin \beta$   | $\cos \beta$   | $\tan \beta$   | $\cot \beta$   |
|----------------------|----------------|----------------|----------------|----------------|
| $-\alpha$            | $-\sin \alpha$ | $+\cos \alpha$ | $-\tan \alpha$ | $-\cot \alpha$ |
| $90^\circ - \alpha$  | $+\cos \alpha$ | $+\sin \alpha$ | $+\cot \alpha$ | $+\tan \alpha$ |
| $90^\circ + \alpha$  | $+\cos \alpha$ | $-\sin \alpha$ | $-\cot \alpha$ | $-\tan \alpha$ |
| $180^\circ - \alpha$ | $+\sin \alpha$ | $-\cos \alpha$ | $-\tan \alpha$ | $-\cot \alpha$ |
| $180^\circ + \alpha$ | $-\sin \alpha$ | $-\cos \alpha$ | $+\tan \alpha$ | $+\cot \alpha$ |
| $270^\circ - \alpha$ | $-\cos \alpha$ | $-\sin \alpha$ | $+\cot \alpha$ | $+\tan \alpha$ |
| $270^\circ + \alpha$ | $-\cos \alpha$ | $+\sin \alpha$ | $-\cot \alpha$ | $-\tan \alpha$ |
| $360^\circ - \alpha$ | $-\sin \alpha$ | $+\cos \alpha$ | $-\tan \alpha$ | $-\cot \alpha$ |
| $360^\circ + \alpha$ | $+\sin \alpha$ | $+\cos \alpha$ | $+\tan \alpha$ | $+\cot \alpha$ |