These are elementary identities that *should not* need much memorization or looking up. Only (1), (17), (18) should be "memorized." The rest should be understood, not memorized.

Notation: $s_X = \sin X, s = s_\alpha, s_2 = s_{2\alpha}, c_X = \cos X$, etc.

$$e^{i\alpha} = c_\alpha + i s_\alpha \tag{1}$$

$$s_\alpha = \frac{e^{i\alpha} - e^{-i\alpha}}{2i} \tag{2}$$

$$c_\alpha = \frac{e^{i\alpha} + e^{-i\alpha}}{2} \tag{3}$$

$$s_{0^\circ} = 0 \tag{4}$$

$$s_{\pi/6} = s_{30^\circ} = 1/2 \tag{5}$$

$$s_{\pi/4} = s_{45^\circ} = \sqrt{2}/2 \tag{6}$$

$$s_{\pi/3} = s_{60^\circ} = \sqrt{3}/2 \tag{7}$$

$$s_{\pi/2} = s_{90^\circ} = 1 \tag{8}$$

$$c_{0^\circ} = 1 \tag{9}$$

$$c_{\pi/6} = c_{30^\circ} = \sqrt{3}/2 \tag{10}$$

$$c_{\pi/4} = c_{45^\circ} = \sqrt{2}/2 \tag{11}$$

$$c_{\pi/3} = c_{60^\circ} = 1/2 \tag{12}$$

$$c_{\pi/2} = c_{90^\circ} = 0 \tag{13}$$

$$s^2 + c^2 = 1 \tag{14}$$

$$\tan^2 + 1 = \sec^2 \tag{15}$$

$$1 + \cot^2 = \csc^2 \tag{16}$$

$$s_{\alpha\pm\beta} = s_\alpha c_\beta \pm c_\alpha s_\beta \tag{17}$$

$$c_{\alpha\pm\beta} = c_\alpha c_\beta \mp s_\alpha s_\beta \tag{18}$$

$$s^2 = \frac{1 - c_2}{2} \tag{19}$$

$$c^2 = \frac{1 + c_2}{2} \tag{20}$$

$$sc = \frac{s_2}{2} \tag{21}$$

$$s_\alpha c_\beta = \frac{s_{\alpha+\beta} + s_{\alpha-\beta}}{2} \tag{22}$$

$$c_\alpha s_\beta = \frac{s_{\alpha+\beta} - s_{\alpha-\beta}}{2} \tag{23}$$

$$c_\alpha c_\beta = \frac{c_{\alpha+\beta} + c_{\alpha-\beta}}{2} \tag{24}$$

$$s_\alpha s_\beta = \frac{-c_{\alpha+\beta} + c_{\alpha-\beta}}{2} \tag{25}$$