Remember:

Degrees	30°	45°	60°	90°	120°	135°	150°	180°	270°	360°
Radians	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π	$\frac{3\pi}{2}$	2π

x	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin x$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos x$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\operatorname{tg} x$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	X
$\operatorname{ctg} x$	X	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0

You should understand *reduction formulas of trigonometry*, such as
$\sin(\frac{\pi}{2} - x) = \cos x$
$\sin(\pi - x) = \sin x$
$\cos(\frac{\pi}{2} - x) = \sin x$
$\cos(\pi - x) = -\cos x$
$\operatorname{tg}(\frac{\pi}{2} - x) = \operatorname{ctg} x$

Solutions of elementary equations:
$\sin x = a \implies x = x_0 + 2k\pi$ or $x = \pi - x_0 + 2k\pi$, where $x_0 \in [-\frac{\pi}{2}, \frac{\pi}{2}]$
$\cos x = a \implies x = x_0 + 2k\pi$ or $x = -x_0 + 2k\pi$, where $x_0 \in [0, \pi]$
$\tan x = a \implies x = x_0 + k\pi$, where $x_0 \in (-\frac{\pi}{2}, \frac{\pi}{2})$
$\operatorname{ctg} x = a \implies x = x_0 + k\pi$, where $x_0 \in (0, \pi)$

Solve equations and inequalities:

1. $\sin x + \cos x = 1$

2. $\sin^2 x = \sin x$

3. $4\sin^2 x + \sin^2 2x = 3$

4. $\operatorname{ctg} x - \cos x = \frac{1 - \sin x}{2\sin x}$

5. $\cos^2 x < \frac{1}{2}$

6. $\sin x > \cos x$

7. $\cos x + \operatorname{tg} x < 1 + \sin x,\ 0 < x < 2\pi$

8. $2\sin^2 3x + \sin^2 5x < 2$

9. $|\sin 3x| - |\cos 3x| = 1$

10. $|\sin x| > \frac{\sqrt{3}}{2}$