

## elementari

1	$\sin x > \frac{1}{2}$	$\frac{\pi}{6} + 2k\pi < x < \frac{5}{6}\pi + 2k\pi$
2	$\tan x > \sqrt{3}$	$\frac{\pi}{3} + k\pi < x < \frac{\pi}{2} + k\pi$
3	$\cos x > -\frac{1}{2}$	$-\frac{2}{3}\pi + 2k\pi < x < \frac{2}{3}\pi + 2k\pi$
4	$\cot x < -1$	$\frac{3}{4}\pi + k\pi < x < (k+1)\pi$
5	$2\sin x + \sqrt{2} > 0$	$-\frac{\pi}{4} + 2k\pi < x < \frac{5}{4}\pi + 2k\pi$
6	$2\cos x + \sqrt{2} > 0$	$-\frac{3}{4}\pi + 2k\pi < x < \frac{3}{4}\pi + 2k\pi$
7	$\tan x < -\sqrt{3}$	$-\frac{\pi}{2} + k\pi < x < -\frac{\pi}{3} + k\pi$
8	$\tan x < 2 + \sqrt{3}$	$-\frac{\pi}{2} + k\pi < x < \frac{5}{12}\pi + k\pi$
9	$3\sin x - 10 > 0$	<i>impossibile</i>
10	$2\cos x + \sqrt{3} \geq 0$	$-\frac{5}{6}\pi + 2k\pi \leq x \leq \frac{5}{6}\pi + 2k\pi$
11	$\cot x < -\frac{\sqrt{3}}{3}$	$-\frac{\pi}{3} + k\pi < x < k\pi$

## di secondo grado

12	$2\sin^2 x + 5\cos x - 4 > 0$	$-\frac{\pi}{3} + 2k\pi < x < \frac{\pi}{3} + 2k\pi$
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13	$2\sin^2 x - \sqrt{2}\sin x > 0$	$-\pi + 2k\pi < x < 2k\pi \vee$ $\frac{\pi}{4} + 2k\pi < x < \frac{3}{4}\pi + 2k\pi$
14	$3\tan^2 x - 1 > 0$	$-\frac{\pi}{6} + k\pi < x < -\frac{\pi}{2} + k\pi \vee$ $-\frac{\pi}{2} + k\pi < x < -\frac{5}{6}\pi + k\pi$
15	$2\cos^2 x - \sqrt{2}\cos x > 0$	$\frac{\pi}{2} + 2k\pi < x < \frac{3}{2}\pi + 2k\pi \vee$ $-\frac{\pi}{4} + 2k\pi < x < \frac{\pi}{4} + 2k\pi$
16	$8\cos^2 x + 2\cos x - 3 < 0$	$-\arccos\left(-\frac{3}{4}\right) + 2k\pi < x < -\frac{\pi}{3} + 2k\pi \vee$ $\frac{\pi}{3} + 2k\pi < x < \arccos\left(-\frac{3}{4}\right) + 2k\pi$
17	$\tan^2 x + 2\tan x + 3 < 0$	<i>impossibile</i>
18	$2\cos^2 x - \sin x - 1 < 0$	$\frac{\pi}{6} + 2k\pi < x < \frac{5}{6}\pi + 2k\pi$
19	$3\cot^2 x - 4\sqrt{3}\cot x + 3 > 0$	$-\frac{2}{3}\pi + k\pi < x < 2\pi + k\pi \vee$ $k\pi < x < \frac{\pi}{6} + k\pi$
20	$\tan^2 x + (\sqrt{3} + 1)\tan x + \sqrt{3} > 0$	$x \neq k\pi \vee x \neq \pm\frac{\pi}{2}$
21	$2\cos^2 x + \sqrt{3}\sin x - 2 > 0$	$2k\pi < x < \frac{\pi}{3} + 2k\pi \vee$ $\frac{2}{3}\pi + 2k\pi < x < (2k + 1)\pi$
22	$\cos 2x + \sin x \geq 0$	$-\pi + 2k\pi < x < \frac{1}{6}(12k\pi - 5\pi)$ $\vee -\frac{\pi}{6} + 2k\pi \leq x \leq \pi + 2k\pi$

## lineari

23	$\sqrt{3}\sin x + 3\cos x > 0$	$-\frac{\pi}{3} + 2k\pi < x < \frac{2}{3}\pi + 2k\pi$
24	$\sqrt{3}\sin x + 3\cos x - \sqrt{3} > 0$	$-\frac{\pi}{6} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
25	$\sqrt{3}\sin x - \cos x - 1 < 0$	$-\pi + 2k\pi < x < \frac{\pi}{3} + 2k\pi$
26	$\cos x + \sqrt{3}\sin x - \sqrt{3} > 0$	$\frac{\pi}{6} + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
27	$\cos x - \sin x + 1 > 0$	$-\pi + 2k\pi < x < \frac{\pi}{2} + 2k\pi$
28	$\cos x + \sin x - \sqrt{2} \geq 0$	$x = \frac{\pi}{4} + 2k\pi$
29	$\cos x + \sqrt{3}\sin x - \sqrt{3} \geq 0$	$\frac{\pi}{6} + 2k\pi \leq x \leq \frac{\pi}{2} + 2k\pi$
30	$\sin\left(x - \frac{\pi}{3}\right) + \cos\left(\frac{4}{3}\pi - x\right) - 1 < 0$	$-\frac{2}{3}\pi + 2k\pi < x < \frac{5}{6}\pi + 2k\pi$
31	$\sin 2x - \cos x + 1 > 2\sin x$	$2k\pi < x < \frac{\pi}{6} + 2k\pi \vee$ $\frac{5}{6}\pi + 2k\pi < x < 2k\pi$
32	$2\cos x - 2\sin\left(-x - \frac{2}{3}\pi\right) - 1 < 0$	$-\pi + 2k\pi < x < \frac{\pi}{2} + 2k\pi \vee$ $\frac{\pi}{3} + 2k\pi < x < \pi + 2k\pi$

omogenee di secondo grado (o riconducibili ad omogenee)

33	$\sin^2 x - 3\cos^2 x \leq 0$	$-\frac{\pi}{3} + k\pi \leq x \leq \frac{\pi}{3} + k\pi$
34	$\cos^2 x + (\sqrt{3} - 1)\sin x \cos x - \sqrt{3}\sin^2 x > 0$	$-\frac{\pi}{6} + k\pi < x < \frac{\pi}{4} + k\pi$
35	$3\sin^2 x - 2\sin x \cos x - \cos^2 x < 0$	$-\arctg \frac{1}{3} + k\pi < x < \frac{\pi}{4} + k\pi$
36	$\sin^2 x - (\sqrt{3} + 1)\sin x \cos x + \sqrt{3}\cos^2 x > 0$	$-\frac{2}{3}\pi + k\pi < x < \frac{\pi}{4} + k\pi$
37	$\sin^2 x + 4\sin x \cos x + 3\cos^2 x > 0$	$-\frac{\pi}{4} + k\pi < x < \pi - \arctg 3 + k\pi$
38	$2\sqrt{3}\cos^2 x - 2\sin x \cos x - \sqrt{3} \leq 0$	$\frac{\pi}{6} + k\pi < x < \frac{2}{3}\pi + k\pi$
39	$3\cos^2 x + 2\sin 2x + 2\sin^2 x > 2$	$-\arctg \frac{1}{4} + k\pi < x < \frac{\pi}{2} + k\pi$
40	$\sin^2 x + 4\sin x \cos x + \cos^2 x < 0$	$\frac{\pi}{12} + k\pi < x < \frac{5}{12}\pi + k\pi$
41	$5\sin^2 x - \sqrt{3}\sin 2x - \cos^2 x < 2$	$-\frac{\pi}{6} + k\pi < x < \frac{\pi}{3} + k\pi$
42	$3\sin^2 x + \sqrt{3}\sin 2x + \cos^2 x > 0$	$\forall x \in \mathfrak{R} - \left\{ \frac{5}{6}\pi + k\pi \right\}$
43	$(3 + \sqrt{3})\sin^2 x + (\sqrt{3} - 1)\sin x \cos x + 2\cos^2 x > 3$	$\frac{\pi}{6} + k\pi < x < \frac{3}{4}\pi + k\pi$
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44	$3 \tan x > \sqrt{3}$	$-\frac{5}{6}\pi + k\pi < x < -\frac{\pi}{2} + k\pi$

45	$2 \sin x - \sqrt{3} \geq 0$	$\frac{\pi}{3} + 2k\pi \leq x \leq \frac{2}{3}\pi + 2k\pi$
46	$\cos x - 2 \geq 0$	<i>impossibile</i>
47	$2 \sin x + \sqrt{3} > 0$	$-\frac{\pi}{3} + 2k\pi < x < \frac{4}{3}\pi + 2k\pi$
48	$2 \sin^2 x - (2 - \sqrt{3}) \sin x - \sqrt{3} \leq 0$	$-\frac{\pi}{3} + 2k\pi \leq x \leq \frac{4}{3}\pi + 2k\pi$
49	$\cos^2 x + \cos x \geq 0$	$-\frac{\pi}{2} + 2k\pi \leq x \leq \frac{\pi}{2} + 2k\pi \vee$ $x = \pi + 2k\pi$
50	$\cos^2 x + 1 \leq 0$	<i>impossibile</i>
51	$2 \cos^2 x + 3 \cos x + 1 > 0$	$-\frac{2}{3}\pi + 2k\pi < x < \frac{2}{3}\pi + 2k\pi$
52	$2 \sin^2 x - \sin x - 1 > 0$	$-\frac{5}{6}\pi + 2k\pi < x < -\frac{\pi}{6} + 2k\pi$
53	$2 \sin^2 x - 3 \sin x + 1 < 0$	$\frac{\pi}{6} + 2k\pi < x < \frac{5}{6}\pi + 2k\pi,$ $\wedge x \neq \frac{\pi}{2}$
54	$2 \cos^2 x - 3 \cos x + 1 < 0$	$-\frac{\pi}{3} + 2k\pi < x < \frac{\pi}{3} + 2k\pi \wedge$ $x \neq 0$

55	$\cos 2x + \cos x < 0$	$\frac{\pi}{3} + 2k\pi < x < \frac{5}{3}\pi + 2k\pi \wedge$ $x \neq \pi$
56	$\sin x \cos x > 0$	$k\pi < x < \frac{\pi}{2} + k\pi$
57	$4 \sin^2 x - 2\sqrt{3} \sin x \cos x - 2 \cos^2 x - 1 > 0$	$\frac{\pi}{3} + k\pi < x < \frac{5}{6}\pi + k\pi \wedge$ $x \neq \frac{\pi}{2} + k\pi$
58	$\sin^2 x + \sin x \cos x < 0$	$-\frac{\pi}{4} + k\pi < x < k\pi$
59	$\sqrt{3} \sin x - \cos x \leq 0$	$-\frac{5}{6}\pi + 2k\pi \leq x \leq \frac{\pi}{6} + 2k\pi$
60	$\sqrt{3} \cos x - \sin x + 1 \geq 0$	$-\frac{5}{6}\pi + 2k\pi \leq x \leq \frac{\pi}{2} + 2k\pi$
61	$\sin^4 x - \cos^4 x < 0$	$-\frac{\pi}{4} + k\pi < x < \frac{\pi}{4} + k\pi$
62	$2 \sin^2 x + 4 \cos^2 x > 5 \cos x$	$\frac{\pi}{3} + 2k\pi < x < \frac{5}{3} + 2k\pi$
63	$\cos^2 x + 2 \cos x < 0$	$\frac{\pi}{2} + 2k\pi < x < \frac{3}{2}\pi + 2k\pi$