35. ESERCIZI SULLE EQUAZIONI GONIOMETRICHE

Determina le soluzioni delle seguenti equazioni nell'intervallo $[0, 2\pi]$

1) $(sen\, x - 5)(5 sen\, x - 1) = 0$

2) $sen\, x - (2 + \sqrt{3}) cos\, x = 0$

3) $(2 + \sqrt{3}) sen\, x\, cos\, x = 0$

4) $(sen\, x - 1)(sen\, x + \sqrt{3}) = 0$

5) $(tg\, x - 1)(tg\, x + \sqrt{3}) = 0$

6) $2 cos\, x (2 sen\, x + \sqrt{2}) = 0$

7) $sen\, x\, cos\, x = sen^2 x$

8) $2 cos^2 x - cos\, x - 3 = 0$

9) $8 sen^4 x = sen\, x$

10) $2 sen^2 x + cos\, x = 1$

11) $tg\, x = \dfrac{(tg\, x + 1)(tg\, x - 1)}{2}$

12) $cotg^2\, x = \dfrac{1}{sen^2\, x}$

13) $sen\, 2x = sen\, x$

14) $sen\, 7x - sen\, x = 0$

15) $2 sen^2 3x = sen\, 3x + 1 = 0$

16) $cos\, 4x + cos\, 2x = 0$

17) $tg\, 8x \cdot tg\, x = 0$

18) $\sqrt{3}\, sen\, x + cos\, x = 2$

19) $sen\, 3x = cos\, 2x$

20) $sen\, 2x - 2 sen\, x - 2 cos\, x + 2 = 0$

21) $sen\left(\dfrac{\pi}{3} - x\right) - sen\left(\dfrac{\pi}{6} + x\right) = \dfrac{\sqrt{2}}{2}$

22) $sen\, 5x + sen\, x = sen\, 3x$

23) $2 sen\, x + 5 cos\, x - 2 = 0$

24) $2 cos^2 2x + cos\, 2x - 1 = 0$

25) $cos\, 2x + 2 sen^2 \dfrac{x}{2} = 1$

26) $8 sen^2 x (sen^2 x - cos^2 x) = 3$

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1) $arc\,sen\dfrac{1}{5},\ \pi-arc\,sen\dfrac{1}{5}$ 2) $\dfrac{5}{12}\pi,\dfrac{17}{12}\pi$

3) $0,\dfrac{\pi}{2},\pi,\dfrac{3}{2}\pi,2\pi$ 4) $\dfrac{\pi}{2}$

5) $\dfrac{\pi}{4},\dfrac{2}{3}\pi,\dfrac{5}{4}\pi,\dfrac{5}{3}\pi$ 6) $\dfrac{\pi}{2},\dfrac{5}{4}\pi,\dfrac{3}{2}\pi,\dfrac{7}{4}\pi$

7) $0,\dfrac{\pi}{4},\pi,\dfrac{5}{4}\pi,2\pi$ 8) π

9) $0,\dfrac{\pi}{6},\dfrac{5}{6}\pi,\pi,2\pi$ 10) $0,\dfrac{2}{3}\pi,\dfrac{4}{3}\pi,2\pi$

11) $\dfrac{3}{8}\pi,\dfrac{7}{8}\pi,\dfrac{11}{8}\pi,\dfrac{15}{8}\pi$ 12) *imposs.*

13) $0,\dfrac{\pi}{3},\pi,\dfrac{5}{3}\pi,2\pi$

14) $0,\dfrac{\pi}{8},\dfrac{\pi}{3},\dfrac{3}{8}\pi,\dfrac{5}{8}\pi,\dfrac{2}{3}\pi,\dfrac{7}{8}\pi,\pi,\dfrac{9}{8}\pi,\dfrac{4}{3}\pi,\dfrac{11}{8}\pi,\dfrac{13}{8}\pi,\dfrac{5}{3}\pi,\dfrac{15}{8}\pi,2\pi$

15) $\dfrac{\pi}{6},\dfrac{7}{18}\pi,\dfrac{11}{18}\pi,\dfrac{5}{6}\pi,\dfrac{19}{18}\pi,\dfrac{23}{18}\pi,\dfrac{3}{2}\pi,\dfrac{31}{18}\pi,\dfrac{35}{18}\pi$

16) $\dfrac{\pi}{6},\dfrac{\pi}{2},\dfrac{5}{6}\pi,\dfrac{7}{6}\pi,\dfrac{3}{2}\pi,\dfrac{11}{6}\pi$

17) $0,\dfrac{\pi}{8},\dfrac{\pi}{4},\dfrac{3}{8}\pi,\dfrac{5}{8}\pi,\dfrac{3}{4}\pi,\dfrac{7}{8}\pi,\pi,\dfrac{9}{8}\pi,\dfrac{5}{4}\pi,\dfrac{11}{8}\pi,\dfrac{13}{8}\pi,\dfrac{7}{4}\pi,\dfrac{15}{8}\pi,2\pi$

18) $\dfrac{\pi}{3}$

19) $\dfrac{\pi}{10},\dfrac{\pi}{2},\dfrac{9}{10}\pi,\dfrac{13}{10}\pi,\dfrac{17}{10}\pi$

20) $0,\dfrac{\pi}{2},2\pi$

21) $\dfrac{5}{4}\pi,\dfrac{23}{12}\pi$

22) $0,\dfrac{\pi}{6},\dfrac{\pi}{3},\dfrac{2}{3}\pi,\dfrac{5}{6}\pi,\pi,\dfrac{7}{6}\pi,\dfrac{4}{3}\pi,\dfrac{5}{3}\pi,\dfrac{11}{6}\pi,2\pi$

23) $\dfrac{\pi}{2},\ 2\pi-2arc\,tg\dfrac{3}{7}$

24) $\dfrac{\pi}{6},\dfrac{\pi}{2},\dfrac{5}{6}\pi,\dfrac{7}{6}\pi,\dfrac{3}{2}\pi,\dfrac{11}{6}\pi$

25) $0,\dfrac{2}{3}\pi,\dfrac{4}{3}\pi,2\pi$

26) $\dfrac{\pi}{3},\dfrac{2}{3}\pi,\dfrac{4}{3}\pi,\dfrac{5}{3}\pi$