Risolvere le seguenti disequazioni:

28 $\sqrt{x+1}+\sqrt{x+6}>\sqrt{7x+4}$; $\sqrt{x+1}+\sqrt{x+2}<3$. $\left[-\frac{4}{7}\le x<3;\ -1\le x<\frac{7}{9}\right]$

29 $2>\sqrt{36+x}-\sqrt{x}$; $\sqrt{1+x}-\sqrt{1-x}>\sqrt{x}$. $\left[x>64;\ \frac{4}{5}<x\le 1\right]$

30 $\sqrt{3-x}+\sqrt{x}<\sqrt{3+x}$; $\sqrt{2+x}-\sqrt{x}>\sqrt{2-x}$. $\left[\frac{12}{5}<x\le 3;\ \frac{8}{5}<x\le 2\right]$

31 $\sqrt{3x+8}+\sqrt{2x-1}+9>0$; $\sqrt{x+10}\ge 9-\sqrt{x+1}$. $\left[x\ge\frac{1}{2};\ x\ge 15\right]$

32 $\sqrt{12x+1}>9-\sqrt{12x+10}$; $\sqrt{2x-2}-\sqrt{x}>\sqrt{2+x}$. $\left[x>\frac{5}{4};\ \text{impossibile}\right]$

33 $\sqrt{2x-2}-\sqrt{x}<\sqrt{2+x}$; $\sqrt{1+x}-\sqrt{1-x}<\sqrt{x}$. $\left[x>1;\ 0<x<\frac{4}{5}\right]$

VERO O FALSO

34 $3\sqrt{|x|}>2\longrightarrow x<-\frac{4}{9}\ \vee\ x>\frac{4}{9}$. V F

35 $\sqrt{|1+x|}<2\longrightarrow -5<x<3$. V F

36 $\sqrt{1+|x|}>3\longrightarrow x<-2\ \vee\ x>2$. V F

37 $\sqrt{1+x}>|x|\longrightarrow \frac{1-\sqrt{5}}{2}<x<\frac{1+\sqrt{5}}{2}$. V F

38 $\sqrt{|1-x^2|}-1<x\longrightarrow x\ge 0$. V F

39 $\frac{\sqrt{x^2-9}}{2-\sqrt{x}}>0\longrightarrow 3<x<4$. V F

40 $\sqrt{\frac{k^2-x^2}{2+x^2}}<k\longrightarrow$ $k>0: -k\le x\le k$; $k\le 0$: impossibile. V F

QUESITI A RISPOSTA MULTIPLA

41 $\sqrt{1+|x|}>x\longrightarrow$

a) ☐ $\forall x\in R$; **b)** ☐ $x<\frac{1+\sqrt{5}}{2}$; **c)** ☐ $\frac{1-\sqrt{5}}{2}<x<\frac{1+\sqrt{5}}{2}$;

d) ☐ $x<\frac{-1-\sqrt{5}}{2}\ \vee\ x>\frac{1+\sqrt{5}}{2}$.