2. Solve each of the following equations:

a) $3\sqrt{2x-4}+1=7$

$x=4$

b) $-2|x+2|-5=8$

$x\in\emptyset$

c) $\frac{2}{x-76}=1$

$x=78$

d) $7|x|+8=0$

$x\in\emptyset$

e) $-5\sqrt{x+2}=-8$

$x=14/25$

f) $\frac{2-x}{2x-1}=9$

$x=11/19$

g) $-6\sqrt{-x}=36$

$x\in\emptyset$

h) $3|2-x|=5$

$x\in\left\{\frac{1}{3},\frac{11}{3}\right\}$

i) $2\sqrt{3-x}+4=16$

$x=-33$

j) $\frac{3x-4}{x+3}=5$

$x=-\frac{19}{2}$

k) $|3-x|+2=2$

$x=3$

l) $\frac{x-5}{x^2-10x+25}=\frac{1}{5}$

$x=10$

3. Solve each of the following inequalities

a) $7>3|2-x|-2$

$x\in\,]-1,5[$

b) $5>\frac{2}{3-x}+7$

$x\in\,]3,4[$

c) $-4<-\sqrt{7-7x}+2$

$x\in\,]-29/7,1]$

d) $10<-2|x-5|$

$x\in\emptyset$

e) $\sqrt{3-x}+7\geq 10$

$x\in]-\infty,6]$

f) $0<\frac{2x-3}{x-1}$

$x\in]\text{-}\infty,1[\cup]\frac{3}{2},\infty[$

g) $0\geq\frac{3}{x-2}+1$

$x\in[-1,2[$

h) $\frac{3}{x+2}<0$

$x\in]-\infty,-2[$

i) $2|x+2|-9\geq 0$

$x\in]\text{-}\infty,\frac{-13}{2}]\cup[\frac{5}{2},\infty[$

j) $2>-\sqrt{-x}$

$x\in]-\infty,0]$

k) $-\sqrt{x-5}+1\geq 8$

$x\in\emptyset$

l) $6|x-2|+4\leq 0$

$x\in\emptyset$