P. 141 Sec. 2.6 #20, 22, 24, 38, 41

Fernando Romero

20. $\sqrt{3x-1}-2=0$

$(\sqrt{3x-1})^2=(2)^2$

$3x-1=4$

$\frac{3x}{3}=\frac{5}{3}$

$x=5/3$

22. $\sqrt{x-1}=x-7$

$(\sqrt{x-1})^2=(x-7)^2$

$x-1=(x-7)(x-7)$

$x-1=x^2-7x-7x+49$

$x-1=x^2-14x+49$

$x-1-x^2+14x-49=0$

$-x^2+15x-49=0$

$0=x^2-15x+49$

$0=(x-10)(x-5)$

$x=10,5$

24. $\sqrt{t+1}+9=7$

$\sqrt{t+1}=7-9$

$\sqrt{t+1}=-2$

$(\sqrt{t+1})^2=(-2)^2$

$t+1=4$

$t=4-1$

$t=3$

When 3 is put in solution its not true so no solution.

38. $4(t-1)^2-9(t-1)=-2$

$4(t-1)(t-1)-9t+9=-2$

$4(t^2-t-t+1)-9t+9=-2$

$4t^2-4t-4t+4-9t+9=-2$

$4t^2-8t+4-9t+9=-2$

$4t^2-17t+13=-2$

$4t^2-17t+15=0$

$4t^2-5t-12t+15=0$

$t(4t-5)-3(4t-5)=0$

$(4t-5)(t-3)=0$

$t=5/4, 3$

41. $(x-3)^2-4=0$

$(x-3)^2=4$

$\sqrt{(x-3)^2}=\sqrt{4}$

$x-3=\pm 2$

$x=5$

$x=1$