**مجموعة تمارين 2 احتمالات**

1- show that f(x) is p.d.f

F(x) =1/6 1<x<7

Drow figure,find p(x=3),p(1<x<3),p(1<x<7),p(1$\leq $x$\leq $7)

2- find the constant c for p.d.f

 F(x)= c (1-x)2 0<x<1

Drow f(x) & find p(x=1/2),p(0<x<1/2),p(0<x<1)

3- let the r.v have the function

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2 | 1 | 0 | -1 | -2  | x  |
| 1/4 | 3/16 | 6/16  | 1/16 | 1/8 | P (x) |

Find p(x>0),p(-1<x<1),p(x$\leq $1),p(x$\leq $3)

4- given that f(x)= 1/2 (x+1) -1<x<1

Find mean and var(x)

5- let x is r.v with the following

 F(x)=3 e-3x x>0 find mean and var(x)