1 - Seja f(x) = kx se 0 < x ≤ 1

0 , e.c.c

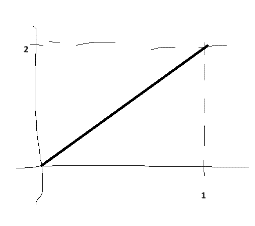
Determinar:

1. k a fim de que f(x) seja f.d.p.

f(x) = 2x se 0 < x ≤ 1

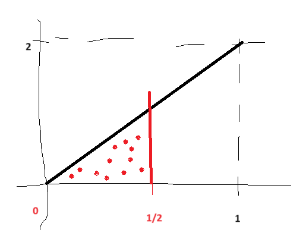
0 , e.c.c

1. o gráfico de f(x)



1. P(0 ≤ x ≤ ½) =

P(X<1/2)



1. F(x) e seu gráfico.

f(x) = 2x se 0 < x ≤ 1

0 , e.c.c

0, X< 0

, 0 < x ≤ 1

0, x < 0

F(x) = x2, 0 < x ≤ 1

1, x > 1

F(X) = P(X < x)

P(X<1/2) = F(1/2) = (1/2)2 = ¼

P(a<x<b) = F(b) – F(a)

P(1/2 < x < 3/4) = F(3/4) – F(1/2) = (3/4)2 – ¼ = 9/16 – ¼ =

= 2x2-1=2x

1. E(x), VAR(x),

f(x) = 2x se 0 < x ≤ 1

0 , e.c.c

V(X) = E(X2) – [E(X)]2= ½ - (2/3)2 = ½ - 4/9 =

c

2 - Uma v.a.x tem função de densidade.

f(x) = cx2 1 ≤ x ≤ 2

cx 2 < x < 3

1. e.c.c

Determine:

1. o valor da constante c;

c = 6/29

1. P(x > 2) ; P(1/2 < x < 3/2);

P(X>2) =

P(X>2) = 1 – P(X≤2) = 1 – F(2)

f(x) = 6/29x2 1 ≤ x ≤ 2

6/29x 2 < x < 3

1. e.c.c

P(1/2 < x < 3/2) = P(0,5 < x < 1,5) = P(1 < x < 3/2)= =

1. Determine F(x).

f(x) = 6/29x2 1 ≤ x ≤ 2

6/29x 2 < x < 3

1. e.c.c

0, x < 1

1 ≤ x ≤ 2

2 < x < 3

0, x < 1

F(X) = , 1 ≤ x ≤ 2

, 2 < x < 3

1, x ≥ 3

P(X>2) = 1 – P(X≤2) = 1 – F(2)= 1 – 14/29 = 15/29

P(1 < x < 3/2)= P(X<3/2) = F(3/2) =