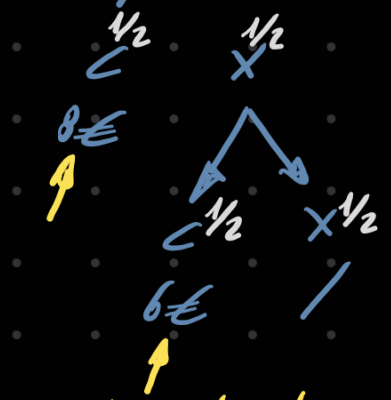
1. a) 5€



Ganancia del jugador

- $8-5=3$
- $6-5=1$
- $0-5=-5$

} Casos posibles

Distribución de probabilidad

x	$f(x)$
3	1/2
1	1/4
-5	1/4

} función de probabilidad

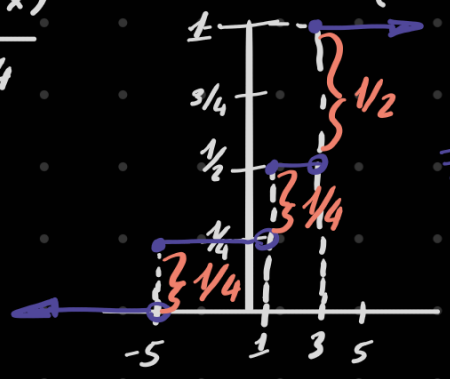
$f(x)=P(X=x)$

$f(x)=\begin{cases} 1/2 ; x\geq 3 \\ 1/4 ; x>3 \end{cases}$

b) Función de distribución $F(x)$

x	$f(x)$	$F(x)$
-5	1/4	1/4
1	1/4	1/2
3	1/2	1

$F(x)=P(X\leq x)$



$F(x)=\begin{cases} 0 ; x<-5 \\ 1/4 ; -5\leq x<1 \\ 1/2 ; 1\leq x<3 \\ 1 ; x\geq 3 \end{cases}$

c) $P(0\leq X\leq 3)$ y $P(0\leq X<3)$

$P(0\leq x\leq 3)=P(x\leq 3)-P(0\leq x)=1-1/4=3/4$ (1/4)

$P(0\leq x<3)=P(x<3)-(P(0\leq x))=\frac{1}{2}-1/4=1/4$ (1/4)

d) media, varianza y coeficiente de variación de X.

x	$f(x)$	$F(x)$	M	σ^2	σ
-5	$1/4$	$1/4$			
1	$1/4$	$1/2$	$1/2$	$10'75$	$6'557$
3	$1/2$	1			

$\mu = M = \sum x \cdot f(x)$

$Var(x) = \sigma^2 = \sum (x-\mu)^2 \cdot f(x)$

$CV = \sigma = \frac{+\sqrt{\sigma^2}}{\mu}$

$(-5 - \frac{1}{2})^2 \cdot \frac{1}{4} = 7'5625$

$(1 - 1/2)^2 \cdot \frac{1}{4} = 0'0625$

$(3 - 1/2)^2 \cdot \frac{1}{2} = 3'125$

$10'75 = Var(X)$

$CV = \frac{\sqrt{10'75}}{1/2} = 6'557$

e) ¿Por qué no es equitativo? Modifícalo