Ethan Olsen
2-1-24
Stats 360
HW 3

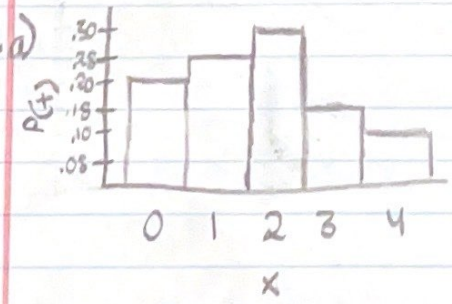
Ch. 3.1 4. X Values: 0, 1, 2, 3, 4
Outcome 1: PIN = 1350 $x = 3$
Outcome 2: PIN = 0000 $x = 0$
Outcome 3: PIN = 0120 $x = 2$

6. X values can start at zero and go to infinity if no car ever turns left. (zero if no car enters intersection)
Outcome 1: RRAL $x = 4$ Outcome 2: RAL $x = 3$
Outcome 3: RL $x = 2$ Outcome 4: RAARL $x = 5$
Outcome 5: L $x = 1$

8.

X	
3	SSS
4	FSSS
5	SFSSS
6	SSFSSS, SFFSSS
7	SSSFSSS, SSFFSSS, SFSFSSS, FSSFSSS, SFFFSSS, FSFFSSS, FFSFSSS, FFFFSSS

Ch. 3.2 11. a)



b) $P(2)+P(3)+P(4)$ = at least 2
$.3+.15+.1 = .55 =$ 55%
$P(3)+P(4)$ = more than 2
$.15+.1 = .25 =$ 25%

c) $P(1)+P(2)+P(3)$ = 1-3 students show up
$.25+.3+.15=.7=$ **70%**

b) $P(p)$ = professor shows up = **100%**

14. a) $\sum_{y=1}^{5} ky = k(1+2+3+4+5) = 15k = P(y) \rightarrow 15k = 1$ **$k = 1/15$**

b) $\frac{1}{15}(1+2+3) = 6/15 = 2/5 =$ **40%**

c) $\frac{1}{15}(2+3+4) = 9/15 = 3/5 =$ **60%**

d) $\frac{1}{50}(1^2+2^2+3^2+4^2+5^2) = 55/50 = 1.1$
can't be pmf because $\neq 1$

23. a) $.2=$ **20%**

$P(x=1)=.19-.06=.13$
$P(x=2)=.39-.19=.2$
$P(x=3)=.67-.39=.28$
$P(x=4)=.92-.67=.25$
$P(x=5)=.97-.92=.05$
$P(x=6)=1-.97=.03$

b) $P(x=4)+P(x=5)+P(x=6)=.25+.05+.03=.33=$ **33%**

c) $P(x=2)+P(x=3)+P(x=4)+P(x=5)=.2+.28+.25+.05=.78=$ **78%**

d) $P(3)+P(4)=.28+.25=.53=$ **53%**