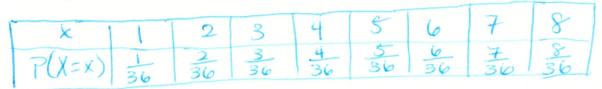
Problem Set #6
15 B
1) X = square of dice face
Find E(x) X 1 4 9 16 25 36 P(X=x) 16 16 16 16 16
((X=X) 16 16 16 16 16 16
$E(x) = 1(t_0) + 9(1/6) + 9(1/6) + 10(1/6) + 25(1/6) + 30(1/6)$
$= 91/6 \approx 15.2 (354)$
(2) $E(z) = 2(1/6) + 3(1/6) + 5(1/6) + 7(X) + 11(Y)$
$5^{2}/_{3} = 10/6 + 7x + 11 y$
17 = 5 + 7x + 11y
Remember Probabilities add up
4=7x+11y soalso, $5+10+10+x+y=1$
$x+g=\frac{1}{2}$
> system of equations
$7x + 11y = 4 \xrightarrow{x^2} 14x + 22y = 8$ $2x + 2y = 1 \xrightarrow{x^7} -14x - 14y = 7$
$2x + 2y = 1 \longrightarrow -14x - 14y = 1$ 8y = 1
$y = \frac{1}{2}$
$X+y=\frac{1}{2}$
$x + \frac{1}{5} = \frac{1}{2}$
$x = \frac{3}{8}$

 $E(x) = \frac{1(1/6) + 2(1/6) + 3(1/6) + 5(1/6) + 8(1/6) + 13(1/6)}{E(x) = \frac{32}{6} \approx 5,33 (354)}$

(4) $p(x) = \frac{x}{36}$

3



 $E(x) = 1(\frac{1}{36}) + 2(\frac{2}{36}) + 3(\frac{3}{36}) + 4(\frac{4}{36}) + 5(\frac{5}{36}) + 6(\frac{6}{36}) + 7(\frac{7}{36}) + 8(\frac{8}{36})$

E(x)= 204/36 ~ 5.67(3sf)

a) 25k = 1 $k = \frac{1}{25}$

b) $E(x) = 1(\frac{1}{25}) + 2(\frac{2}{25}) + 3(\frac{3}{25}) + 4(\frac{4}{25}) + 5(\frac{5}{25}) + 6(\frac{4}{25}) + 7(\frac{3}{25}) + 8(\frac{2}{25}) + 9(\frac{1}{25})$

E(x) = 125/25 = 5

(b)

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