Statistics in AIDS Assignment 2 Q1. mean: 4300 aus 8-d = 750 aves probability of between 2500 & 4200 aves will be bunt. P (2500 < X < 4200) is to be found 2 = 2500 - 4 LS00 - 4300 = -2-40 750 2 = 4200-4 - 4200-4300 -0.133 750 margaretation la Transper P (2500 < 7 < 4200) .p (-2.4 < 2 < -0.133) /: P (2 < -0.133) - P (2<-2-4) = 0.4483 - 0.0082 • 0-4401. The probability is 0.4401 38th percentile. P(x<) -0.38 => P(223) = 0.38 2: -0.31 X = 4300+ (-031)(750) = 4300-232-5 = 4017.5 4067, 5 is the 38th furnile of the bunt acre. (Sundaram)

	A Company of the Comp		
			//
Q 3.	× 29D		
9.5	x = 290 u = 300		
- 3	sd= 50		
	n=15		
2	t = 290-300 x-	u e e é è è	
(1)	50 V15 Vr		1
	= - 6-774		
	The t-score is 0.226. (1- +7	
	Cummulative beguency	15 0.226 Ga	
	that the bulbs wont last n	100 than 190 da	
	that the bulbs wont last n	row than 290 da	75
Q4.			72
Q4·	that the bulbs wont last n x = 290 u = 300		75
Q4.	X = 1290		75
Q4.	x = 290 u = 300		75
Q4.	x = 290 u = 300 S.d = 50		29.5
Q4.	$\chi = 290$ $U = 300$ $S \cdot d = 50$ $N = 16$		275
Q4.	$x = 290$ $u = 300$ $5 \cdot d = 50$ $n = 15$ $t = 290 - 300$ $x - u$		75
Q4.	$\chi = 290$ $u = 300$ $S \cdot d = 50$ $n = 16$ $t \cdot 290 - 300$ $\chi - u$ $s \cdot d$ $s \cdot d$		75
Q4.	x = 290 $y = 300$ $y = 300$ $y = 15$ $y = 15$ $y = 15$ $y = 15$		7
Q4.	$x = 290$ $u = 300$ $s \cdot d = 50$ $n = 15$ $t \cdot 290 - 300$ $x - u$ $s6$ sd $s7$		75
Q4.	$x = 290$ $u = 300$ $S \cdot d = 50$ $n = 15$ $f : 290 - 300$ $S \cdot d = 50$		75
Q4.	$x = 290$ $u = 300$ $S \cdot d = 50$ $n = 15$ $f : 290 - 300$ $S \cdot d = 50$		75
	$x = 290$ $u = 300$ $S \cdot d = 50$ $n = 15$ $f : 290 - 300$ $S \cdot d = 50$		75
	$x = 290$ $u = 300$ $S \cdot d = 50$ $n = 15$ $f : 290 - 300$ $S \cdot d = 50$		75

FOR EDUCATIONAL USE

Jundaram

96] 4 = 20 0=4 Sample size n = 64 P(X < 19) = ? Standard ever = 5 = 0.5 P(X<19) = 19-20 ·. P(2<-2) = 0.0228.97. n = 50 u=112 5=40 P (110 < ><114) P (x>113) 4x = 4=112 (257) 5.65 m i. P (10-112 < 2 < 110-114) FOR EDUCATIONAL USE Sundaram

		6
	: P(-0.35<2<0.35)	2
	= 0.6368 - 0.3632	
	= 0.2736	
;_	P(X7113) - P (27113-24)	7-4-5-
	The state of the s	
	· P(z>0.18)	
	= (-1(2<018)	
	1-0.5715	108
	= 1.4286	
Q 8.		
3	M=30	
	6=1.5kg	
	sample n=45	
	Using 2-score,	<u> </u>
	J State,	
	<u> </u>	
	vn	
	= 1.5	594
	45	
To a second	26.7082	h.
	· 28-30 = P (P € 28)	
	(.7D12	
-76	-0-298)	
	·· P(2C-0.298)) = 0.3828.	
	0.5020.	
Jundaram	FOR EDUCATIONAL USE	
Sund	daram)	
((1)		

u=300 / hour : u = 300 = 5/minute. · a) the propability that none passes in a $\frac{1}{12} p(x=0) = e^{-x} (x)^{7}$ $e^{-5} \times 5^{0} \qquad 21$ 01 e-s = 0.0067 Expected no. of vehichtes in 2 mins is min 10 vehicles. c 10 x(10)10 (probability that 10 vehicles
10! pass in 2 mins) 910. FOR EDUCATIONAL USE daram

911.	u= 4 mins	
	·: \\ \=_\	
	N	
	:	
	5	
	: 0-25	
	Following exponential distribution P(x = 5) = 7e -(7)7 = 0-25 x e -(0.25)(5)	
	1 (x = 54 = 7 (0.25)(5)	
	: 0-2S x e	
	= 0.071	
912.	u= 8 mins	
912	\ -	
	your from the field of all the last of	
	Z /	
1	les and Programme to death and the second	
	=0.125	
	=0.12S -(0.125)(5) : P(x=51= 6.125x e 1	
	= 6.067	
	(: Probability = 0.067	
913.	- probability = 1/4	
	n = 10	
	probability that he hip exactly 3 times -: x=3	
	$-\frac{1}{2}$	
	p = 1/4 q = 3/4.	
<u>Sundaram</u>	FOR EDUCATIONAL USE	
		_

· P (x=1) = 7(2 px (1-x) : 10(3p3 q7 : 10(3(1/4)3 (3/4)7 7! x31 x 37 0.2502 .. The probability to hit exactly 3 times .. Probability to hit afterest once = 1- (Probabilize to hit not more than once) [- P(m=0) + P(m=1)] 1. Probability = 1- (3)7 Q 14. pro balil P = 3/100 . 0.03 q: 1-p= 0.97 FOR EDUCATIONAL USE Sundaram

For x=0 5(0 (6.03) (0.91) = 5.1 (0.91)5 = (0.97)5 = 0.858 · P(x=0)= 6.858 least 2 P(x72) = 1-P(x=0) -P(x=1) 1- [S(10.03)(0.97)5] - [S(10.03)(0.95) $= 1 - (0.97)^{5} - (0.03)^{19} (0.97)^{4}$ 0.0085 n=60 915-M= 1000 o = \$200 Confidence level = 95% (Sundaram)

	$\therefore \mathbf{z} \begin{bmatrix} \mathbf{x} + \mathbf{z} \\ \mathbf{v} \end{bmatrix}$	
	- 1000 ± 1.96 x 200 V60 = 1000 ± 80.61	
	. 944.39, 1050.61	
	(\$949.39,\$1050.6))	
910	Mousehold No of Children	
	2 3	
14 14	3 h	
	S S 2	
	7 1	
	mean 2)y	
	z 2·26	
	$variance = (2-2.25)^2 + (3-2-25)^2 + (5-2-25)^2$	
Jundaram	FOR EDUCATIONAL USE	

5.P 2 VI. Poy 1.34 Standard dev euros: 1.34 1-34 V3 = 0.475 2-25 \$ 1.96 (0.475) [2.25 + 1.96(0.475)] [2.25 + - 1.96(0.471)] = 2-25+ 6.931, 2-25-0.931 6 C.7 = 3.181, 1-319 1-319