Stat330 HW5	Neva Maddali
400 mean 36.4	1R:11,5 (a1 = 45 + 03 = 56.5)
median: 50.5 31 1b) 1ag + 1.5 = 17.25 + as	
Q1-17.25 =	27.775
	Q+7(Q1+45 + 03+52)
median: 50 31	
	effect on mean and standard deviation of the
	a skew data sets making retruitions like
	esentative of the data set
THE WICH HO THE	ESENTATIVE OF THE COSTS SI
tal the transmission of white	-skewed (positively-skewed). The way arrive of diamor
	dollar value. The diamond count gets
	ice in dollars intreased
	tion as the decrease in diamond count as
	ious that of an exponential data set
el there is a strong.	
	positive linear relation between carat and
price of diamonds.	. The price increases as the number
price of diamonds.	The price increases as the number e. Higher variability as carat increases
of carats increas	e. Higher variability as carat increases
of carats increas	. The price increases as the number
of carata increase	e. Higher variability as carat increases
price of diamonds of carats increase  of Ein xi  2 Ein xi/n	The price increases as the number e. Higher variability as carat increases $E(\hat{o}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n} E\left(\sum_{i=1}^{n} x_{i}\right)$
price of diamonds of carato increas  ) for Eight X,  2 Eight Xi  E(X) of units atb	The price increases as the number $\varepsilon$ . Higher variability as carat increases. $E(\hat{\sigma}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_i\right)$ $= \frac{2}{n} E\left(\sum_{i=1}^{n} x_i\right)$ $= \frac{2}{n} \sum_{i=1}^{n} E(x_i)$
price of diamonds of carats increas  ) in Ein xi  2 Ein xi/n  E(x) of unif = a+b  = 0+0	The price increases as the number e. Higher variability as carat increases $E(\hat{o}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n} E\left(\sum_{i=1}^{n} x_{i}\right)$
price of diamonds of carats increas  ) fi Eight  2 Eight  (x) of unit: 2 to	The price increases as the number e. Higher variability as carat increases $E(\hat{0}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E(x_{i})$ $= \frac{2}{\pi}\sum_{i=1}^{n}E(x_{i})$
price of diamonds of carato increas ) $\hat{T}_1 \leq \hat{T}_1 \times \hat{T}_2 \times \hat{T}_1 \times \hat{T}_2 $	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E\left(x_{i}\right)$
price of diamonds of carats increase ) $\frac{2}{h} \stackrel{\text{lin}}{\approx} \times 1$ $2 \stackrel{\text{lin}}{\approx} \times 1/h$ $E(x)$ of unif: $\frac{a+b}{2}$ $= 0+\theta$ $E(0) = \frac{\theta}{2}$	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E\left(x_{i}\right)$
price of diamonds of carato increas ) $\hat{T}_{1} \geq \hat{T}_{1} \times \hat{T}_{2} \times \hat{T}_{2} \times \hat{T}_{3} \times \hat{T}_{4} \times T$	The price increases as the number e. Higher variability as carat increases. $E(\hat{\theta}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E\left(x_{i}\right)$ $= \frac{2}{\pi}$
price of diamonds of carats increase ) $\frac{1}{2} \sum_{i=1}^{n} x_i$ $2 \sum_{i=1}^{n} x_i/n$ $E(x)$ of unif: $\frac{a+b}{2}$ $= 0+\theta$ $E(0) = \frac{\theta}{2}$	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E\left(x_{i}\right)$
price of diamonds of carats increas  ) $\hat{T}_{1} \leq \hat{X}_{1} \times 1$ $2 \leq \hat{X}_{1} \times 1 \times 1/n$ $E(X)$ of unif: $\frac{a+b}{2}$ $= 0+\theta$ $E(0) = \frac{\theta}{2}$ $Var(X)$ for unif $\frac{(A+b)}{12}$ $\frac{2}{n} \leq \hat{X}_{1} = 1 \times 1$	The price increases as the number e. Higher variability as carat increases. $E(\hat{\theta}) = E\left(\frac{2}{\pi}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{\pi}\sum_{i=1}^{n}E\left(x_{i}\right)$ $= \frac{2}{\pi}$
price of diamonds of cavats increas $ \sum_{i=1}^{n} \times_{i} $ $ \sum_{i=1}^{n} \times_{i} $ $ \sum_{i=1}^{n} \times_{i}/n $ $ E(x) of unif: \frac{a+b}{2}  = 0+\theta   E(0) = \frac{\theta}{2}   Var(x) = \frac{\theta}{2}/12   \frac{2}{n} \sum_{i=1}^{n} \times_{i}   \frac{4/n^{2}}{n} \text{ Var}(\sum_{i=1}^{n} \times_{i}) $	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$
price of diamonds of carats increas  ) $\hat{T}_{1} \leq \hat{t}_{1} \times 1$ $2 \leq \hat{t}_{1} \times 1 \times 1 / n$ $E(x)$ of unif: $\frac{a+b}{2}$ $= 0+\theta$ $E(0) = \frac{\theta}{2}$ i) $Vor(x)$ for unif $(a+b)$ $Var(x_{1}) = \frac{\theta^{2}}{12}$ $= \frac{12}{\pi} \leq \hat{t}_{1} = 1 \times 1$	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$
price of diamonds of cavats increas $ \sum_{i=1}^{n} \sum_{i=1}^{n} x_{i} $ $ \sum_{i=1}^{n} x_{i} \times \sum_{i=1}^{n} x_{i} \times \sum_{i=1}^{n} x_{i} $ $ \sum_{i=1}^{n} \sum_{i=1}^{n} x_{i} $	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$
price of diamonds of cavats increas $ \begin{array}{cccccccccccccccccccccccccccccccccc$	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$
price of diamonds of cavats increas $ \sum_{i=1}^{n} \times_{i} $ $ \sum_{i=1}^{n} \times_{i} $ $ \sum_{i=1}^{n} \times_{i}/n $ $ E(x) of unif: \frac{a+b}{2}  = 0+\theta   E(0) = \frac{\theta}{2}   Var(x) = \frac{\theta}{2}/12   \frac{2}{n} \sum_{i=1}^{n} \times_{i}   \frac{4/n^{2}}{n} \text{ Var}(\sum_{i=1}^{n} \times_{i}) $	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$
price of diamonds of carats increas  of carats increas $ \sum_{i=1}^{n} \sum_{i=1}^{n} x_i $ $ \sum_{i=1}^{n} x_i \times i/n $	The price increases as the number e. Higher variability as carat increases $E(\hat{\theta}) = E\left(\frac{2}{n}\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n} x_{i}\right)$ $= \frac{2}{n}E\left(\sum_{i=1}^{n$

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40) E(x,+x2+x3+x4/4)=P
      -Bias(x1+x2+x3+x4/4) = E(x1+x2+x1+x4/4)-p=0
   E(x1+2x1+x3/4)=p
     -> Bias (x++2x++x+/4) = E(x+2x++x+/4) -p = 0
  both estimators are unbiased estimators of a
46) MSE(6) = Var(6)
   MSE(P) = (x1+x2+x3 +x4/4)
             = 1/16 Var(x,+x,+x,+x,+x,)
             = 1/16.4 (P(1-0))
    MSE(6) = /4 p(1-0)
                                          MSE(P,) & MSE (P)
    MSE ( 6 ) = 1 + 2x2 + x3/4
                                             P, is the better
            = 1/14 Var (x,+2x2+x2)
                                                estimator.
            + The Vactory + Varley) + Varley)
           = 1/16 Var(x,) + 4 Var(x2) + Var(x3)
   MSE(6) = 3/8 p (1-p)
5) Epaces = $1.0 + xe $1, 1-103
    11. log L(A) = (2.11 ×1) log A - A - A log (x, 1)
       % 10g((X) = Eja Xi -n
                                    === (7+6+7+2+4) = 5.2
       = (7+6+7+2+4)= 5.2
```

70) f(1) = Sot 6-1, Oct <1	
	\$ Mon = 2 /A
6 ( e e e e · )	-(1.333)
B . Tr	
76) 2(6) = 3 6+0-1, 63 (12+1)6-1	
TANK THE TAN	
10g L(6) = 3(0g @ + (0-1) \$ 1=1 log (t)	
de 1094(0)=3 + € 109 t,	
10.00	Tana and a
A = -3/2 109 t = -3/-1.378	826 =(21/1655)
TOTAL TOTAL CONTRACTOR OF THE PARTY OF THE P	
(3, 1)	
$\int_0^{r+} \frac{\lambda^3}{2} x^2 e^{-\lambda x}$	
-0 2 = 3 -1	2 panes = X
***	2 MARM = X + Z Tal X - X 1
E(x)= =/x	
= 3/2 - x = 1 Zin x	
1/21 = d (4+1) - L > -1 X	
$\frac{\Gamma(x^2) = \frac{1}{2} I(x+1)}{\lambda^2} = \frac{1}{n} \sum_{i=1}^{n} X_i^2$	
(6) [/\lambda) = [7] \frac{\lambda^2}{2} \times^2 e^{-\lambda \times}	
	2 +210g (x)
(6) $L(\lambda) = \frac{17}{17} \frac{\lambda^{3}}{2} x^{2} e^{-\lambda x}$ $\log L(\lambda) = 3n \log(\lambda) - n \log(2) - x$	
(6) [/\lambda) = [7] \frac{\lambda^2}{2} \times^2 e^{-\lambda \times}	
(b) $L(\lambda) = \sqrt{7} \frac{\lambda^2}{2} \times^2 e^{-\lambda x}$ $\log L(\lambda) = 3n \log(\lambda) - n \log(2) - x$ $\frac{d}{d\lambda} \log L(\lambda) = \frac{3n}{\lambda} - x$	
(b) $L(\lambda) = \sqrt{7} \frac{\lambda^2}{2} \times^2 e^{-\lambda x}$ $\log L(\lambda) = 3n \log(\lambda) - n \log(2) - x$ $\frac{d}{d\lambda} \log L(\lambda) = \frac{3n}{\lambda} - x$	
(b) $L(\lambda) = \sqrt{7} \frac{\lambda^2}{2} \times^2 e^{-\lambda x}$ $\log L(\lambda) = 3n \log(\lambda) - n \log(2) - x$ $\frac{d}{d\lambda} \log L(\lambda) = \frac{3n}{\lambda} - x$ $\frac{3n}{\lambda} = x = 0$	
(b) $L(\lambda) = \frac{17}{2} \frac{\lambda^2}{2} x^2 e^{-\lambda x}$ $= \frac{\log L(\lambda)}{\log L(\lambda)} = \frac{3n \log(\lambda) \cdot n \log(2) - x}{2}$ $= \frac{d}{d\lambda} \log L(\lambda) = \frac{3n}{\lambda} - x$ $= \frac{3n}{\lambda} - x = 0$ $= \frac{3n/\lambda = x}{2}$	
(b) $L(\lambda) = \sqrt{7} \frac{\lambda^3}{2} \times^2 e^{-\lambda x}$ $\log L(\lambda) = 3n \log(\lambda) - n \log(2) - x$ $\frac{d}{d\lambda} \log L(\lambda) = \frac{3n}{\lambda} - x$ $\frac{3n}{\lambda} = x = 0$	