

# AP STAT

pg 648-649 #27, 28, 30  
657-659 #34, 35, 37, 38

#27) a)  $SE = \frac{9.3}{\sqrt{27}} = 1.7898$

b)  $SE = \frac{\sigma}{\sqrt{n}}$       $.01 = \frac{\sigma}{\sqrt{3}} = \sigma = .01(\sqrt{3}) = \textcircled{.0173}$   
n = 3 measurements

#28) a) 90%  $\Rightarrow t^* = 1.796$       $df = 11$

b) 95%  $\Rightarrow t^* = 2.045$       $df = 29$

c) 85%  $\Rightarrow t^* = 1.333$       $df = 17$

#30) (a) SRS, normality, independence  
✓     ✓      $\hookrightarrow$  normal probability plot  $\rightarrow$  Linear

(b)  $\bar{x} = 22.5$   
 $\sigma = 7.1913$  } 1 var stat - calc

$n = 8$       $df = 7$       $t^* = 2.365$       $E = 2.365 \left( \frac{7.1913}{\sqrt{8}} \right) = 6.01$

$\textcircled{(16.49, 28.51)}$

#34) double blind means giver or receiver don't know what they're getting.

(b)

(c) No - Big skew & outliers - no good to use t

#35)

$\bar{x}$  moon 3.022

$\bar{y}$  non moon .589

$L1, L2,$

$L3 = E - L2$

1 var stat

$\bar{x}_d = 2.43 \leftarrow \sigma_d = 1.46$

95% 2145  $E = 2.145 \left( \frac{1.46}{\sqrt{15}} \right) = .8086$

$(1.62, 3.24)$

With 95% confidence level, the mean diff for population ( $\mu_d$ ) should fall between 1.62 and 3.24

on average, patients have between 1.62 and 3.24 more aggressive episodes on mood days than other days

(b) As an observational study you can not conclude moon causes more aggressive episodes, other reasons could impact this increase in aggression.

#37) (a)  $df=9$   $t^* = 2.262$

(b)  $df=19$   $t^* = 2.861$

(c)  $df=6$   $t^* = 1.440$

#38) normal probability plot does not show severe skewness or outliers  $\rightarrow$  also Box & Whisker



(b) pop is all adults however

Sample was healthy men we can only generalize to healthy men

$n=9, df=8$   $t^* = 1.860$   $\bar{x}_{DIFF} = 5.5$   $S_{DIFF} = 2.517$   $(3.939, 7.061)$

(c) Before/After pairing, not a matched pair B/c this grp of men only received treatment.