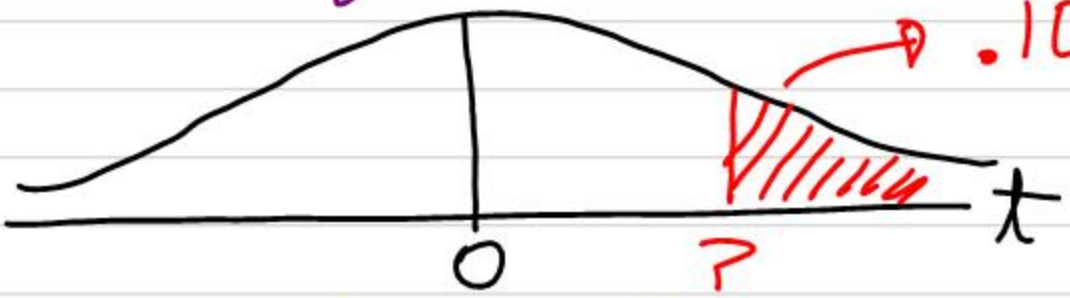
Prob. 8.85(A) / Pg. 299

The t functions used in these two problems utilize Excel 2010 and higher.

Given: $t_{.10, 15}$ → df

area in Right tail

Area is .10

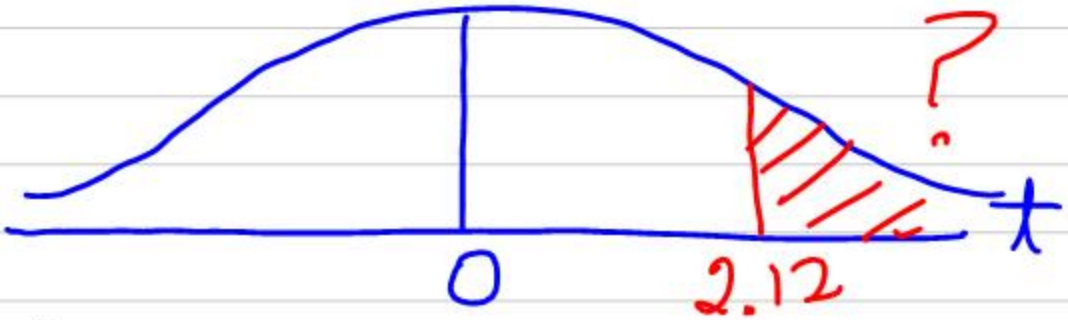


$= t.inv(.90, 15) \cong 1.34$

Prob. 8.87: FIND: $P(t > 2.12)$

df ← 64

t value



$= t.dist.rt(2.12, 64) \cong 0.018$

Please note: Students still utilizing Excel 2007, refer to the textbook in Chapter 8 as the value of t, and the area associated with a t value, are computed differently.

CH. 12 – Sec. 1 Confidence Intervals

WE DO NOT KNOW σ

CH. 10

$$\bar{X} \pm \left(Z_{\alpha/2}\right)\left(\frac{\sigma}{\sqrt{n}}\right)$$

CH. 12

$$\bar{X} \pm \left(t_{\alpha/2}\right)\left(\frac{s}{\sqrt{n}}\right)$$

Hypothesis Testing

CH. 11

TEST STATISTIC

$$Z = \frac{\bar{X} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

CH. 12 we ~~do~~ do not ~~know~~ Know σ

$$t = \frac{\bar{X} - \mu}{s/\sqrt{n}}$$

CH. 12 $np > 5$ $nq > 5$

Conf. Intervals → $\hat{p} \pm \left(Z_{\alpha/2}\right)\left(\sqrt{\frac{\hat{p}\hat{q}}{n}}\right)$

TEST STATISTIC → $Z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}}$

Prob. 12.4 / Pg. 395

Given: $\bar{X} = 1500$, $S = 300$, $n = 100$

Estimate 95% C.I.,

Prob 12.27 / Pg. 398

Given: $n = 15$, Xr 12-27

Find: 95% C.I.

18.13 ± 5.40; LCL = 12.73, UCL =23.53

Prob. 12.23 / Pg. 397

Given:

$\alpha = 5\%$

Hypotheses?

$H_0: \mu = 6$

$H_1: \mu < 6$

Test statistic = approx -0.68

Critical value for this left tailed test = approx -1.796

p value for this one-tailed test = approx 0.25

Decision: Do Not Reject the Null. There is not enough evidence to support the courier's advertisement.

Ch. 12 - Sec. 3 - Proportions

PART A

Prob. 12.83 / Pg 419

Given: $n = 400$, $\hat{p} = .50$

Find: 95% C.I. of est. of prop.

IS $n\hat{p} > 5$ and $n\hat{q} > 5$

Use Z table

0.50 ± 0.049 What is the lower confidence limit and the upper confidence limit???

Ex. 12.5 / Pg. 411

Xm12-05
Data File

Hypotheses:

H_0: $p = 0.50$

H_1: $p > 0.50$

This is a textbook example. Review all parts of this example.

Prob. 12.108 / Pg. 421

$np > 5$ ✓
$nq > 5$ ✓

Hypotheses?

$H_0: p = .90$

$H_1: p < .90$

Use $\alpha = 5\%$

Critical Value? $-1.65 = z$ c.v.

Test Stat? z stat $= -1.578$

p val? $\Rightarrow .058$

Do Not Reject the null; There is not enough evidence to infer that the satisfaction rate is less than 90%.

z stat $= -1.58$

p val $= .0571$

CH. 13 – Sec 1

Inference About the Difference Between 2 Means: INDEPENDENT SAMPLES

Let $\mu_1 \rightarrow$ MEAN OF POPULATION 1

Let $\mu_2 \rightarrow$ " " " 2

Hypothesis Test About $\mu_1 - \mu_2$

$\bar{X}_1 \rightarrow$ Sample Mean from Pop. 1

$\bar{X}_2 \rightarrow$ Sample Mean from Pop. 2

$\bar{X}_1 - \bar{X}_2$ is the sample statistic used to test $\mu_1 - \mu_2$

$$\mu_{\bar{X}_1 - \bar{X}_2} = \mu_1 - \mu_2$$

This is derived from what we learned in Chapter 9.

$H_0 : \mu_1 - \mu_2 = 0$

$H_1 : \mu_1 - \mu_2 \neq 0$

$H_0 : \mu_1 - \mu_2 = 0$

$H_1 : \mu_1 - \mu_2 > 0 \Rightarrow$ OR $\mu_1 > \mu_2$

$H_0 : \mu_1 - \mu_2 = 0$

$H_1 : \mu_1 - \mu_2 < 0 \Rightarrow$ OR $\mu_1 < \mu_2$

Ex 13.1 / Pg. 442 | Xm13-01 Data File

Define Variables.

$\mu_1 \rightarrow$ DIRECT PURCHASED FUNDS

$\mu_2 \rightarrow$ BROKER PURCHASED FUNDS

$H_0: \mu_1 - \mu_2 = 0$

$H_1: \mu_1 - \mu_2 > 0$

FIRST STEP Do we assume equal or unequal population variances?

We will complete this example at the next lecture meeting.