MAT 212 EXAMPLES FOR COMPARING TWO MEANS: INDEPENDENT SAMPLES

The data for this example are from Exercise 13.39, page 410 of the text. These data were entered into columns **C1** and **C2**, which were named **Exercise** and **Drug**, respectively.

THE CALCULATIONS FOR A CONFIDENCE INTERVAL

To obtain the desired 95% confidence interval, use

> **Stat > Basic Statistics > 2-Sample t**
> > **Select: Samples in different columns**
> > **First: C1 Exercise**
> > **Second: C2 Drug**
> > **Select: Assume equal variances**
> > **Options: Confidence Level: 95**
> > > **Test Mean: (Leave Blank)**
> > > **Alternative: not equal > OK > OK**

Two-Sample T-Test and CI: Exercise, Drug

```
Two-sample T for Exercise vs Drug

            N      Mean      StDev    SE Mean
Exercise   25     13.52       2.40       0.48
Drug       25      9.92       3.63       0.73


Difference = mu Exercise - mu Drug
Estimate for difference:  3.600
95% CI for difference: (1.851, 5.349)
T-Test of difference = 0 (vs not =): T-Value = 4.14  P-Value = 0.000  DF = 48
Both use Pooled StDev = 3.08
```

THE CALCULATIONS A TEST OF HYPOTHESIS
To obtain the test statistic and the p-value of the desired test, use

> **Stat > Basic Statistics > 2-Sample t**
> > **Select: Samples in different columns**
> > **First: C1 Exercise**
> > **Second: C2 Drug**
> > **Select: Assume equal variances**
> > **Options: Confidence Level: (Leave Blank)**
> > > **Test Mean: 0**
> > > **Alternative: greater than > OK > OK**

Two-Sample T-Test and CI: Exercise, Drug

```
Two-sample T for Exercise vs Drug

            N      Mean      StDev    SE Mean
Exercise   25     13.52       2.40       0.48
Drug       25      9.92       3.63       0.73


Difference = mu Exercise - mu Drug
Estimate for difference:  3.600
95% lower bound for difference: 2.141
T-Test of difference = 0 (vs >): T-Value = 4.14  P-Value = 0.000  DF = 48
Both use Pooled StDev = 3.08
```