

## Hypothesis Testing about $\mu_1 - \mu_2$ when $\sigma_1$ and $\sigma_2$ are unknown

Select the **STAT** button, screen 1 should appear.

Select **TESTS**, screen 2 should appear.

Select **4: 2-SampTTest...**, screen 3 should appear.

On screen 3, select **Stats** for Inpt.,  $\bar{x}_1$  is the sample mean for population 1,  $Sx_1$  is the sample standard deviation for population 1,  $n_1$  is the sample size for population 1,  $\bar{x}_2$  is the sample mean for population 2,  $Sx_2$  is the sample standard deviation for population 2,  $n_2$  is the sample size for population 2, select the correct alternative hypothesis, **Pooled**: select No

After entering all of this information select **Calculate** and the information will be displayed, screen 4.

```

2nd [ ] CALC TESTS
1:Edit...
2:SortA(
3:SortD(
4:ClrList
5:SetUpEditor
    
```

Screen 1

```

EDIT CALC TESTS
1:Z-Test...
2:T-Test...
3:2-SampZTest...
4:2-SampTTest...
5:1-PropZTest...
6:2-PropZTest...
7:ZInterval...
    
```

Screen 2

```

2-SampTTest
Inpt:Data [ ]
x1:21.8
Sx1:4.2
n1:30
x2:23.8
Sx2:3.2
n2:30
    
```

Screen 3

```

2-SampTTest
μ1 > μ2
t = -2.074647124
P = .9786084512
df = 54.18284574
x1 = 21.8
x2 = 23.8
    
```

Screen 4

**Note:** On screen 4, the  $t$  value is the test statistic, the  $p$  is the  $p$ -value or observed significance level, and  $df$  is the degrees of freedom for the test. Always round the degrees of freedom down to nearest whole number.