Problem 1

```
. ttesti 107 2.1 3.1 0
```

One-sample t test

```
<table>
<thead>
<tr>
<th>Obs        Mean    S     tdf. Err.   Std. Dev.   [95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
</tr>
</tbody>
</table>
```

mean = mean(x)  t = 7.0073
Ho: mean = 0  degrees of freedom = 106
Ha: mean < 0  Pr(T < t) = 1.0000
Ha: mean != 0  Pr(|T| > |t|) = 0.0000
Ha: mean > 0  Pr(T > t) = 0.0000

Problem 3

```
. ttesti 81 27 6.9  90 24 6.2
```

Two-sample t test with equal variances

```
<table>
<thead>
<tr>
<th>Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
</tr>
<tr>
<td>y</td>
</tr>
<tr>
<td>combined</td>
</tr>
<tr>
<td>diff</td>
</tr>
</tbody>
</table>
```

diff = mean(x) - mean(y)  t = 2.9779
Ho: diff = 0  Satterthwaite's degrees of freedom = 161.74
Ha: diff < 0  Pr(T < t) = 0.9984
Ha: diff != 0  Pr(|T| > |t|) = 0.0032
Ha: diff > 0  Pr(T > t) = 0.0016

OR (either is fine to use for HW purposes)

```
ttesti 81 27 6.9  90 24 6.2, unequal
```

Two-sample t test with unequal variances

```
<table>
<thead>
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<tr>
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<tr>
<td>combined</td>
</tr>
<tr>
<td>diff</td>
</tr>
</tbody>
</table>
```

diff = mean(x) - mean(y)  t = 2.9779
Ho: diff = 0  Satterthwaite's degrees of freedom = 161.74
Ha: diff < 0             Ha: diff ! = 0             Ha: diff > 0
Pr(T < t) = 0.9983      Pr(|T| > |t|) = 0.0033      Pr(T > t) = 0.0017
.