

# Statistical Reasoning in Public Health 2009

## Stata Output of Possible Utility for HW#3

### Problem 1

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

One-sample t test

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
x	107	2.1	.2996883	3.1	1.505839	2.694161

mean = mean(x) t = 7.0073  
 Ho: mean = 0 degrees of freedom = 106

Ha: mean < 0 Ha: mean != 0 Ha: mean > 0  
 Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

### Problem 3

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

Two-sample t test with equal variances

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
x	81	27	.7666667	6.9	25.47428	28.52572
y	90	24	.6535374	6.2	22.70144	25.29856
combined	171	25.42105	.5117688	6.692245	24.41081	26.43129
diff		3	1.001749		1.022447	4.977553

diff = mean(x) - mean(y) t = 2.9948  
 Ho: diff = 0 degrees of freedom = 169

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0  
 Pr(T < t) = 0.9984 Pr(|T| > |t|) = 0.0032 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

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
x	81	27	.7666667	6.9	25.47428	28.52572
y	90	24	.6535374	6.2	22.70144	25.29856
combined	171	25.42105	.5117688	6.692245	24.41081	26.43129
diff		3	1.007417		1.010614	4.989386

diff = mean(x) - mean(y) t = 2.9779  
 Ho: diff = 0 Satterthwaite's degrees of freedom = 161.74

Ha: diff < 0  
Pr(T < t) = 0.9983

Ha: diff != 0  
Pr(|T| > |t|) = 0.0033

Ha: diff > 0  
Pr(T > t) = 0.0017

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