

You have 25 minutes. Take your time!
 Note that this sheet has **two sides**.

Name: _____

ONE: Reproduced below is a worked example of a cluster sample that I demonstrated in class.

◇	A	B	C	D	E
1	plot	survival		0.77	mean
2	1	0.75		0.0056667	variance
3	2	0.8		0.96	FPC
4	3	0.8		0.0233238	std. err.
5	4	0.85		2.2621572	TINV
6	5	0.7		0.0527621	CI half-width
7	6	0.9		0.7172379	UCL
8	7	0.7		0.8227621	LCL
9	8	0.75			
10	9	0.8			
11	10	0.65			
12					
13					

1. There are only 10 observations listed in the table. So how is this a cluster sample?

2. Define (in words or as an equation are equally fine):

variance is _____

FPC is _____

std. err. is _____

TINV is _____

TWO: Why should you collect pilot data before you undertake a full sample?

THREE: I've defined the standard error of the mean two ways. Explain the difference, and when you'd use one over the other.

[a]
$$S_{\bar{y}} = \sqrt{\left(\frac{N-n}{N}\right) \frac{s^2}{n}}$$

[b]
$$S_{\bar{y}} = \frac{s}{\sqrt{n}}$$

FOUR: When designing an inventory, selecting a **sample size** involves tradeoffs. With this in mind, complete the two sentences below.

If I take a larger sample, I will increase the

If I take a smaller sample, I will increase the

Write nothing below the line above.