Question

Examine this Equality of Variances table. If your alpha is 0.05, do you have sufficient evidence to reject the assumption of equal variances?

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	39	39	1.45	0.2460

- *a.* yes
- *b.* no

Check My Answer

Correct.
The *p*-value of 0.2460 is greater than your alpha, so you would fail to reject the null hypothesis and proceed as if the variances are equal.

Question

Which type of modeling has the following characteristics?

- answers the question "How X is related to Y?"
- has small sample sizes and few variables
- is assessed using *p*-values and confidence intervals

- (●) *a.* explanatory modeling
- ( ) *b.* predictive modeling

Check My Answer

Correct.
In explanatory modeling, the goal is answer the question, "How is X related to Y?" You typically have small sample sizes and few variables, and you assess the model using *p*-values and confidence intervals.

Question

Match the term with the description.

d	Type I error	a. failure to reject the null hypothesis when it is false
a	Type II error	b. the probability of committing a Type I error
b	alpha	c. the difference between the observed statistic and the hypothesized value
f	power	d. rejecting the null hypothesis when it is true
e	sample size influence	e. effect of the number of trials on the *p*-value
c	effect size	f. the probability that you correctly reject the null hypothesis

Check My Answer

Correct.
A Type I error occurs if you reject the null hypothesis when it's actually true.
A Type II error occurs when you fail to reject the null hypothesis and it's actually false.

Question

A 95% confidence interval for SAT scores is (1157.90, 1223.35). What can you conclude from this information?

- *a.* The true average SAT score is significantly different from 1200.
- *b.* The true average SAT score is not significantly different from 1200.
- *c.* The true average SAT score is less than 1200.
- *d.* None of the above. You cannot determine statistical significance from confidence intervals.

Check My Answer

Correct.
The interval 1157 to 1223 contains 1200. If your interval contains the targeted value, the true average score is not significantly different.

Question

Complete the PROC TTEST statement below to examine whether the average percentage of body fat is equal among males and females.

Gender	ID	FatPct
M	1876	13.3
M	1555	22
F	1231	29
F	1977	21.7
M	1194	31

```
proc ttest data=bodyfat;
   class Gender ;
   var FatPct ;
run;
```

Show Hint Show Answer

PROC TTEST DATA=*SAS-data-set;*
CLASS *variable;*
VAR *variable(s);*

Question

What is the null hypothesis for a one-sample *t* test? Select all that apply.

- [x] *a.* H_0: $\mu=\mu_0$
- [ ] *b.* H_0: $\mu_{0=0}$
- [x] *c.* H_0: $\mu-\mu_0=0$
- [ ] *d.* H_0: $\mu_0-0=0$

Check My Answer

Correct.
A one-sample *t* test compares the mean calculated from a sample to a hypothesized mean. The null hypothesis of the test is generally that the difference between the two means is 0. This can be stated as $\mu=\mu_0$ or $\mu-\mu_0=0$.