Math 473 Quiz 10 Spring 2021 Name_____

1) Suppose you are estimating the mean μ of failure times with $T = \overline{X}$.
actual ordered failure times 1, 3, 5, 9, 40: $\overline{X} = 11.6$,
a) Compute $T_1^*, ..., T_4^*$, where T_i^* is the sample mean of the ith bootstrap sample.
bootstrap samples:

9, 9, 40, 9, 1:

9, 5, 1, 5, 9:

3, 9, 1, 9, 40:

40, 3, 5, 40, 40:

b) Now compute the bagging estimator which is the sample mean of the T_i^*: the bagging estimator $\overline{T}^* = \frac{1}{B}\sum_{i=1}^{B} T_i^*$ where $B = 4$ is the number of bootstrap samples.

2) Suppose the survival regression model has at least one time dependent predictor variable (covariate). What regression model should be used (PH, WPH, AFT, SPH, or GCR)?

3)

	Estimate	Std.Err	95% shorth CI
X1	-42.4846	51.2863	[-192.281, 52.492]
X2	0		[0.000, 0.268]
X3	1.1707	0.0598	[0.992, 1.289]
X4	0.1467	0.0368	[0.0747, 0.215]
X5	0		[0.000, 0.840]
X6	0		[0.000, 1.916]

a) Given the above output, what is $\hat{\boldsymbol{\beta}}_{VS} = \hat{\boldsymbol{\beta}}_{I_{min},0}$?

b) What is the 95% CI for β_3?