

Chapter 19B Homework

Name: _____

A professor has noticed that students who lack basic math skills do not perform well in his statistics course. The professor creates a math pretest (range = 0 – 10) given during the first class to determine whether each student has the math skills necessary for statistics. To evaluate the predictive validity of his pretest, at the end of the semester the professor regresses student course grade point averages on pretest scores. The relevant regression equation and relevant statistics appear below. Use these data to answer the questions that follow.

$$Y' = .884 + .326 X$$

Pretest (X)	Grade Points(Y)	
$\bar{X} = 5.500$	$\bar{Y} = 2.675$	$r = 0.744$
$SS_X = 82.000$	$SS_Y = 17.715$	$Cov = 26.700$

- Using the data in the table above, calculate the sum of squares regression (SS_{Reg}). Place this in the summary table below.

- Using the data in the table above, calculate the sum of squares residual (SS_{Resid}). Place in the summary table below.

- Determine each degrees of freedom and place in the summary table below.

- Calculate both mean squares (MS_{Reg} and MS_{Resid}) and place in the summary table below.

- Calculate the *F*-Ratio and place in the summary table below.

- Given df_{Reg} and df_{Resid} , what is the critical *F*-Value for $\alpha = .05$? Is the regression equation significant?

Source of Variance	SS	df	MS	F
Regression				
Residual				---
Total			---	---

