1. a i

Source	df	Sum of Squares	Mean Square	F
Regression	1	6.07851	6.07851	26.18
Residual	9	2.08960	0.23218	
Total	10	8.16811		

ii

Source	df	Sum of Squares	Mean Square	F
Regression	1	4.22063	4.22063	5384.94
Residual	9	0.00705	0.0007838	
Total	10	4.22768		

b i $H_0 : \beta_1 = 0 \quad H_A : \beta_1 \neq 0$

Critical Value: $F_{1,9,0.95}=5.12$

Since 26.18 >5.12, the critical value at $\alpha = 0.05$, we would reject H_0 and conclude that there is a significant linear relationship of Y on X.

ii $H_0 : \beta_1 = 0 \quad H_A : \beta_1 \neq 0$

Critical Value: $F_{1,9,0.95}=5.12$

Since 5384.94 >5.12 we would reject H_0 and conclude that there is a significant linear relationship of Z on X at $\alpha = 0.05$.