**JOSHUA ETUK 19/sci01/095**

**1**

**|X|= 1 2 8**

 **4 7 6**

 **9 5 3**

|X|=1(21-30)-2(12-54)+8(20-63)

|X|= -269

X is a non singular matrix

 **|Y|= 0 5 0**

 **-3 -7 -1**

 **2 1 9**

|Y|= 0(171+1)-5(-27+2)+0(-3+14)

|Y|= 125

Y is a non singular matrix

RANK OF Y

|Y|= **0 5 0**

 **-3 -7 -1**

 **2 1 9**

|Y|= 0(171+1)-5(-27+2)+0(-3+14)

|Y|= 125

Hence the rank of Y is 3 because it is not equal to zero

|X+Y|= **1 7 8**

 **1 0 5**

 **11 6 12**

|X+Y|= 1(0-30)-7(12-55)+8(6-0)

|X+Y|= 319

|X+Y| is a non singular matrix

|5Y|= 0 25 0

 -15 -35 -5

 10 5 45

 |5Y|= 0(-1575+25)-25(-675+50)+(-75+350)

 |5Y|=15625

 |5Y| is a non singular matrix

**2**

**T(m)= 3**

**T(h)= 1**

**T(i)= 1**

**T(k)= 9**

**T(o)= 9**

**T(r)= 5**