1)

H0 for TV: in the presence of radio ads and newspaper ads, TV ads have no effect on sales

H0 for radio: in the presence of TV and newspaper ads, radio ads have no effect on sales

HO for newspaper: in the presence of TV and radio, newspaper ads have no effect

Low p-values of TV and radio suggest that the null hypotheses are false for TV and radio.

High p-value of newspaper suggests that the null hypothesis is true for newspaper.

3)

(a) Y = 50 + 20* GPA + 0.07* IQ + 35*Level + 0.01*(GPA * IQ) – 10*(GPA * Level)

Let's check the results for several GPA

Level	GPA	IQ	Y
College = 1	3,4,5,8	110	126,137,148,181
High School = 0	3,4,5,8	110	121,142,163,226

i. False. For GPA=3, IQ = 110 college earns more

ii. False. For GPA=4, IP = 110 high school graduates earn more

iii. True – table above

iv. False - table above

(b)

Y(GPA = 4, IQ = 110, Lebel=1)

= 50 + 20 * 4 + 0.07 * 110 + 35 + 0.01 (4 * 110) - 10 * 4

= **137.1**

(c)

False. We must examine the p-value of the regression coefficient to determine if the interaction term is statistically significant or not.