Computational

(a) i. $\beta_1 = 1$

$\beta_2 = 0$ β_1 & β_3 are most important

$\beta_3 = 1$

ii. $\beta_{2|\pi_2} = 0.8(1) + 0.8(1) = 1.6$

$\beta_{1|\pi_1} = 1$

$\beta_{3|\pi_3} = 1$

The results differ from a(i) b/c X_1 & X_3 sever any impact

X_2 has on Y

(b) Model $\hat{Y} = X_1\beta_1 + X_2\beta_2 + X_3\beta_3$

$\Rightarrow \beta_1 = -1.49, \quad \beta_2 = 2.19, \quad \beta_3 = -1.02$

Model $\hat{Y} = X_2\beta_2$

$\Rightarrow \beta_2 = 0.65$

Model $\hat{Y} = X_1\beta_1 + X_2\beta_2$

$\Rightarrow \beta_1 = -1.49 \qquad \beta_2 = 1.69$

Model $\hat{Y} = X_2\beta_2 + X_3\beta_3$

$\Rightarrow \beta_2 = 1.15 \qquad \beta_3 = -1.03$