

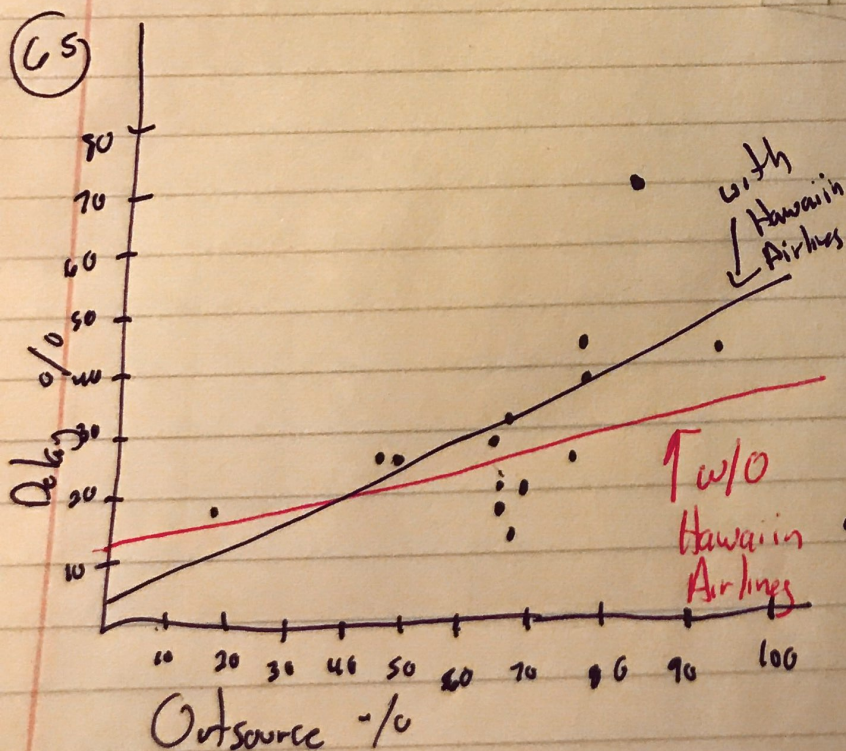
HW 3.2 Part D pg 194-197 prob 63, 65, 71-78

(63) a) Regression Line: $\hat{y} = 157.68 - 2.9935x$ $x = \#$ breeding pairs
 $\hat{y} = 157.68 - 2.9935(30) = 67.875\%$ $y = \%$ males return
 or $\approx 68\%$ of males return

b) $r^2 = 63.1\%$ so $r^2 = .631$ 63.1% of the variation in the % of returning males is accounted for by the regression line

c) $r^2 = .631$ $r = \pm \sqrt{.631} = \pm .794$
 since slope is neg, $r = -.794$

d) $s \approx 0.025$ the average error (residual) when using the regression line to predict % of males returning is about 9.4 %



b) r with Hawaiian Airlines $\approx .476$

r w/o Hawaiian Airlines $\approx .484$

r rises slightly when outlier is removed, but not enough to consider the outlier influential for correlation.

c) Regression with Hawaiian Airlines
 $\hat{y} = 4.73 + .3868x$

Regression w/o Hawaiian Airlines
 $\hat{y} = 10.878 + .2495(x)$

- (71) B
(72) C
(73) B

(as ~~sm~~ packs smoked) \uparrow , age at death is lower) so neg

(74) A (use slope)

(75) $\hat{y} = 6.4 + (0.93)(100) = 99.4$ B

(76) A (slope is positive)

(77) D

(78) observed height = 59 cm

$$\hat{\text{height}} = 6.4 + .93(60) = 62.2$$

$$R = 59 - 62.2 = -3.2 \quad \boxed{A}$$

