John, 87 in a class with average 89 and S = 0.7

$$Z = \frac{X_i - \bar{X}}{S} => \frac{87 - 89}{0.7} = -2.85$$

Amy, 76 in a class with average 73 and S = 5

$$Z = \frac{X_i - \bar{X}}{S} => \frac{76 - 73}{5} = 0.6$$

What is their respective Z score and percentile?

Percentile for John = 0.22%

Percentile for Amy = 72.57%

Who is doing relatively better?

Amy is doing relatively better because her percentile is much higher than it is for John.

1) For the following crosstab, please answer the questions

Table 6.4. Satisfaction with Income by Race (in frequencies and expected frequencies)

| Satisfaction with Income | Race | | Total |
|---|---|---|---|
| | White | Black | |
| Pretty well | 737 | 67 | 804 |
| | (_____) | (_____) | |
| More or less | 1000 | 187 | 1187 |
| | (_____) | (_____) | |
| Not satisfied | 488 | 177 | 665 |
| | (_____) | (_____) | |
| Total | 2225 | 431 | 2656 |

A) State the null hypothesis

Race has nothing to do with satisfaction with income

B) Computing the expected frequencies

The expected are 673.5, 130.5, 994.4, 192.6, 557.1, and 107.9

C) Computing chi-square

$\chi^2 = 89.9$

D) Computing df (degree of freedom)

df = (3 – 1) (2 – 1) = 2

E) Determine the p level

P< .001

F) Decision regarding the null hypothesis, type of errors committed

Reject the null hypothesis, committing type I error