

9. This problem has to do with odds.

(a) On average, what fraction of people with an odds of 0.37 of defaulting on their credit card payment will in fact default?

<sol>
$$\text{odds} = \frac{p}{1-p} \Rightarrow p = \frac{\text{odds}}{1 + \text{odds}}$$

$$\therefore p^* = \frac{0.37}{1.37} \approx 0.27$$

\Rightarrow On average, about 27% of people with an odds of 0.37 will in fact default. #

(b) Suppose that an individual has a 16% chance of defaulting on her credit card payment. What are the odds that she will default?

<sol>

$$\text{odds} = \frac{p}{1-p}$$

$$\Rightarrow \text{odds}^* = \frac{0.16}{1 - 0.16} = \frac{0.16}{0.84} \approx 0.19$$

\therefore The odds that the individual will default are 0.19. #