Class activity: fitted logistic regression model

Group members:

Instructions: Work with a neighbor on the following activity. I will collect the handout at the end of class, and it will be part of your class participation grade. You will be graded only on effort – it is ok if you don't finish all the questions, or get them all correct.

Fitted model

In this activity, we will work with the fitted logistic regression model from the dengue data. The fitted logistic regression model is

$$Y_i \sim Bernoulli(\pi_i)$$
$$\log\left(\frac{\hat{\pi}_i}{1-\hat{\pi}_i}\right) = -2.45 + 0.22\ Age_i$$

1. Does the probability of dengue increase or decrease with age?

2. What is the predicted odds of dengue for a 5 year old patient?

3. Based on your answer to question 2, for a 5 year old patient is the predicted *probability* of dengue > 0.5, < 0.5, or $= 0.5$? (You should answer this without performing any calculations).