

NAME:

Consider a situation with a continuous outcome  $y$ , a continuous predictor  $x$ , and a categorical variable  $g$  with two levels (group A, group B). Match the following regression models to the plot below. (Assume all parameters are non-zero.) **Extra credit:** Determine the values of the parameters from the plot.

Plot: \_\_\_\_\_  $E[y] = \beta_0$

Plot: \_\_\_\_\_  $E[y|x] = \beta_0 + \beta_1 x$

Plot: \_\_\_\_\_  $E[y|g] = \beta_0 + \beta_1 \text{group\_A\_indicator}$

Plot: \_\_\_\_\_  $E[y|x, g] = \beta_0 + \beta_1 \text{group\_A\_indicator} + \beta_2 x$

Plot: \_\_\_\_\_  $E[y|x, g] = \beta_0 + \beta_1 \text{group\_A\_indicator} + \beta_2 x + \beta_3 \text{group\_A\_indicator} * x$

