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Lab #5

Q1: curve(exp\_fun(x, 1.9, 0.1), add = FALSE, from = 0, to = 50,

ann = FALSE, axes = TRUE, ylab = "f(x)", col=1, lty = 1)

curve(exp\_fun(x, 1.9, 0.3), add = TRUE, from = 0, to = 50, ylab = "f(x)",

col=1, lty = 2)

curve(exp\_fun(x, 1.2, 0.2), add = TRUE, from = 0, to = 50, ylab = "f(x)",

col=2, lty = 1)

curve(exp\_fun(x, 1.2, 0.4), add = TRUE, from = 0, to = 50, ylab = "f(x)",

![A picture containing graphical user interface

Description automatically generated]()

Q2:

Q3:As I change the parameters the line is moved up and down the y axis. The “a” value changes the height of the line.

Q4: As you change the “b” parameter the slope of the line changes. With different vales the line could look flat or likes its floating.

Q5:

![Chart

Description automatically generated]()

Q6: As I vary parameter “a” the height of the overall curve.

Q7: As I vary parameter “b” the overall slope of the function changes.

Q8: I used 0.7 for x1 and 750 for y1. I chose these values based on the ones that were already presented in the graph, I chose numbers in between exact values.

![Chart, scatter chart

Description automatically generated]()

Q9:

Q10: My value for a is 2.2 and b is 1/130. I chose these values by looking at how all the numbers I looked at changed the slope of the curve.

![Chart

Description automatically generated]()Q11:

Q12: My a value was 0.01 and my b was .009. I chose these values because the a has to be way less than 1 and my max value was a bit over 0.8.

![Chart

Description automatically generated]()Q13:

Q14: sal\_resids = data.frame(x = dat\_dispersal$dist.class, y\_observed = dat\_dispersal$disp.rate.ftb)

sal\_resids$y\_predicted\_linear = line\_point\_slope(sal\_resids$x, 0.7, 750, 0)

sal\_resids

sal\_resids$resids\_linear= (sal\_resids$y\_observed - sal\_resids$y\_predicted\_linear)

sal\_resids$y\_predicted\_exp = exp\_fun(sal\_resids$x, 2.2, 1/130)

sal\_resids

sal\_resids$resids\_exp = (sal\_resids$y\_observed - sal\_resids$y\_predicted\_exp)

sal\_resids$y\_predicted\_ricker = ricker\_fun(sal\_resids$x, 0.01, .009)

sal\_resids

sal\_resids$resids\_ricker = (sal\_resids$y\_observed - sal\_resids$y\_predicted\_ricker)

![Chart, diagram

Description automatically generated]()Q15: