

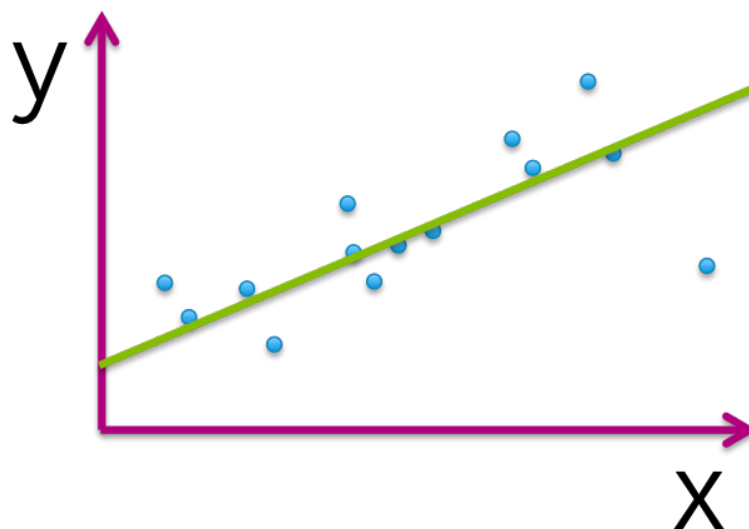
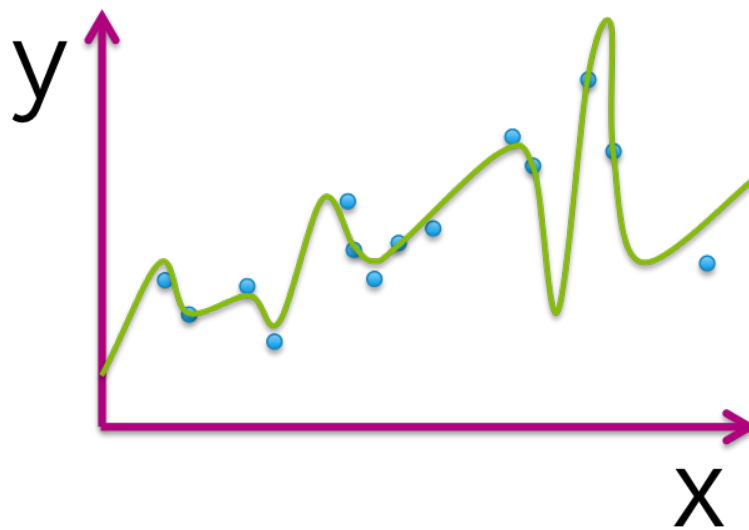
Regression

Quiz, 9 questions

1
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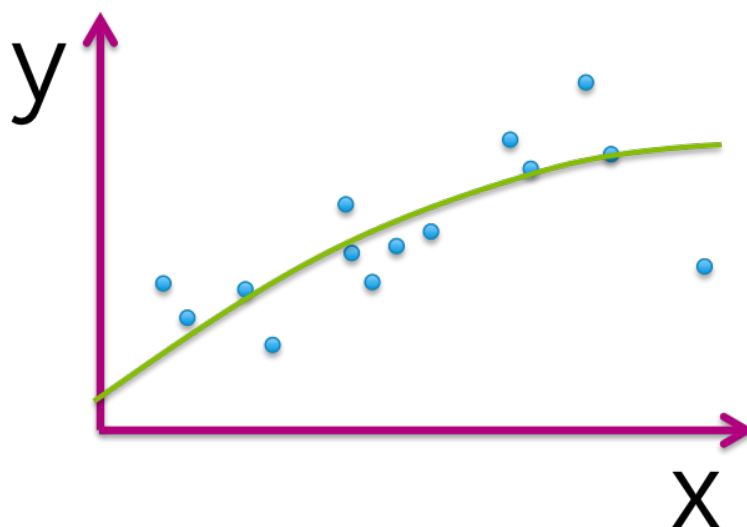
1.

Which figure represents an overfitted model?



Regression ☐

Quiz, 9 questions



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2.

True or false: The model that best minimizes training error is the one that will perform best for the task of prediction on new data.

- ☐ **True**
- ☐ **False**
-

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3.

Regression

Quiz, 9 questions

The following table illustrates the results of evaluating 4 models with different parameter choices on some data set. Which of the following models fits this data the best?

Model index	Parameters (intercept, slope)	Residual sum of squares (RSS)
1	(0,1.4)	20.51
2	(3.1,1.4)	15.23
3	(2.7, 1.9)	13.67
4	(0, 2.3)	18.99

- ☐ Model 1
- ☐ Model 2
- ☐ Model 3
- ☐ Model 4

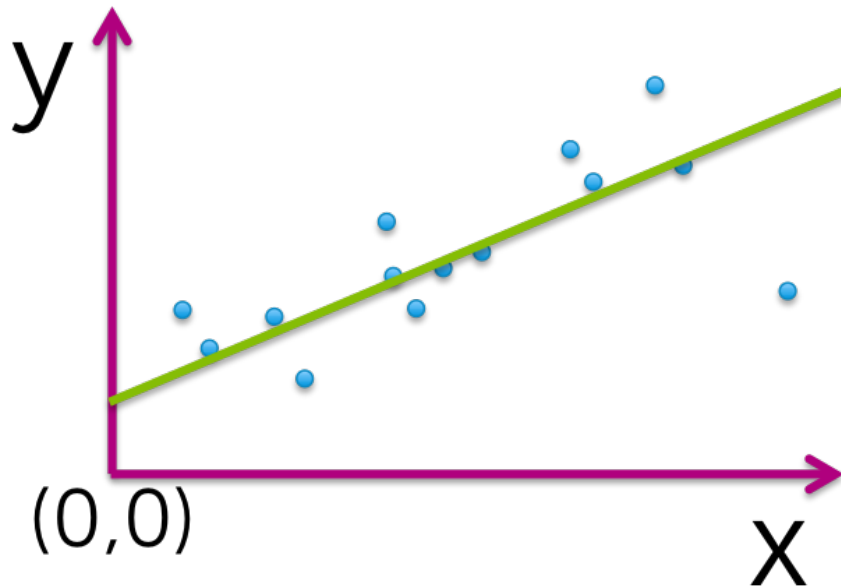
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4.

Regression

Quiz, 9 questions

Assume we fit the following quadratic function: $f(x) = w_0 + w_1 \cdot x + w_2 \cdot (x^2)$ to the dataset shown (blue circles). The fitted function is shown by the green curve in the picture below. Out of the 3 parameters of the fitted function (w_0 , w_1 , w_2), which ones are estimated to be 0? (*Note: you must select all parameters estimated as 0 to get the question correct.*)



- ☐ **w0**
- ☐ **w1**
- ☐ **w2**
- ☐ **none of the above**

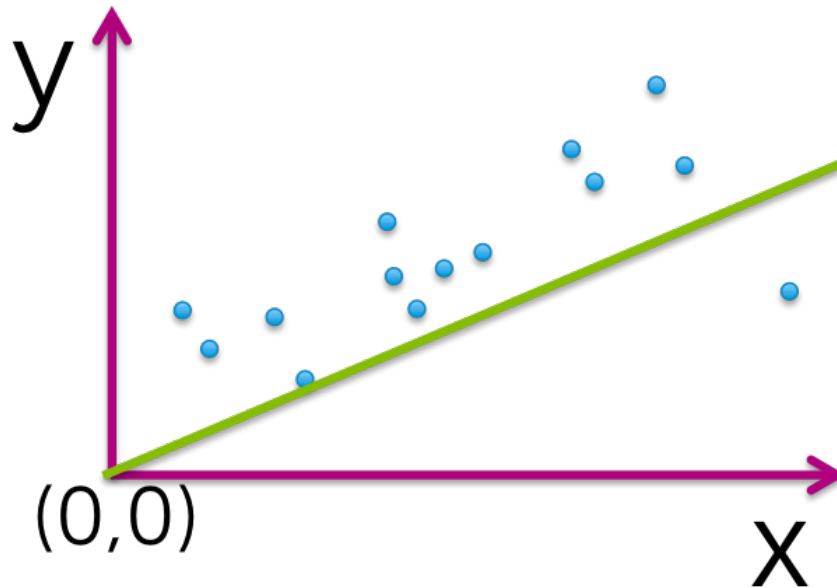
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5.

Regression

Quiz, 9 questions

Assume we fit the following quadratic function: $f(x) = w_0 + w_1 \cdot x + w_2 \cdot (x^2)$ to the dataset shown (blue circles). The fitted function is shown by the green curve in the picture below. Out of the 3 parameters of the fitted function (w_0 , w_1 , w_2), which ones are estimated to be 0? (*Note: you must select all parameters estimated as 0 to get the question correct.*)



- ☐ **w0**
- ☐ **w1**
- ☐ **w2**
- ☐ **none of the above**

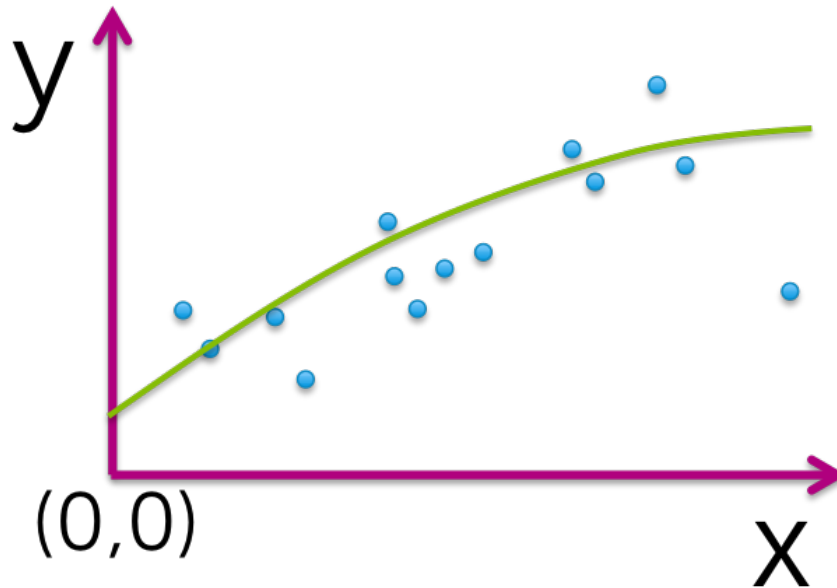
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6.

Regression

Quiz, 9 questions

Assume we fit the following quadratic function: $f(x) = w_0 + w_1 \cdot x + w_2 \cdot (x^2)$ to the dataset shown (blue circles). The fitted function is shown by the green curve in the picture below. Out of the 3 parameters of the fitted function (w_0 , w_1 , w_2), which ones are estimated to be 0? (*Note: you must select all parameters estimated as 0 to get the question correct.*)



- ☐ **w0**
- ☐ **w1**
- ☐ **w2**
- ☐ **none of the above**

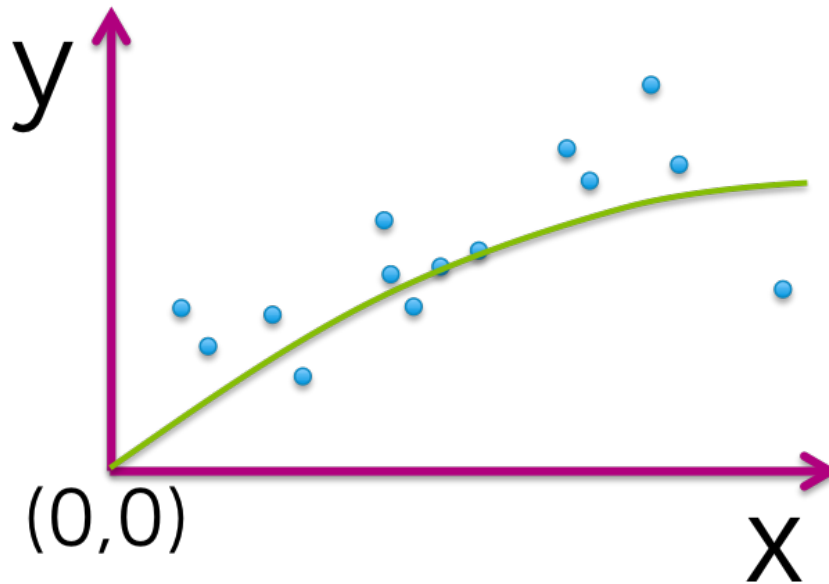
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7.

Regression

Quiz, 9 questions

Assume we fit the following quadratic function: $f(x) = w_0 + w_1x + w_2x^2$ to the dataset shown (blue circles). The fitted function is shown by the green curve in the picture below. Out of the 3 parameters of the fitted function (w_0 , w_1 , w_2), which ones are estimated to be 0? (*Note: you must select all parameters estimated as 0 to get the question correct.*)



- ☐ w_0
- ☐ w_1
- ☐ w_2
- ☐ none of the above

1
point

8.

Which of the following plots would you **not** expect to see as a plot of training and test error curves?

