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1. Fill in the blank: The hyperparameter max depth is used to limit the depth of a decision tree, which is the number of levels between the _____ and the farthest node away from it. 1 / 1 point

- ☐ leaf node
- ☐ first split
- ☒ root node
- ☐ decision node

✓ Correct
The hyperparameter max depth is used to limit the depth of a decision tree, which is the number of levels between the root node and the farthest node away from it. Hyperparameters are parameters that can be set before a model is trained. They can be tuned to improve performance, directly affecting how the model is fit to the data.

2. What tuning technique can a data professional use to confirm that a model achieves its intended purpose? 1 / 1 point

- ☐ Classifier
- ☒ Grid search
- ☐ Min samples leaf
- ☐ Decision tree

✓ Correct
Grid search is a tool that confirms that a model achieves its intended purpose. It does this by systematically checking every combination of hyperparameters to identify which set produces the best results, based on the selected metric.

3. During model validation, the validation dataset must be combined with test data in order to function properly. 1 / 1 point

- ☐ True
- ☒ False

✓ Correct
During model validation, the validation dataset must remain unseen until the very end of the process. It is a sample of data that is held back during training and is separate from test data.

4. Fill in the blank: Cross validation involves splitting training data into different combinations of _____, on which the model is trained.

1 / 1 point

- ☒ folds
- ☐ tiers
- ☐ banks
- ☐ parcels



Correct

Cross validation involves splitting training data into different combinations of folds, on which the model is trained. The process uses these different portions of the data to test and train a model across several iterations.