1. What are the key reasons for reducing the dimensionality of a dataset? What are the major disadvantages?

2. What is the dimensionality curse?

3. Tell if its possible to reverse the process of reducing the dimensionality of a dataset? If so, how can you go about doing it? If not, what is the reason?

4. Can PCA be utilized to reduce the dimensionality of a nonlinear dataset with a lot of variables?

5. Assume you're running PCA on a 1,000-dimensional dataset with a 95 percent explained variance ratio. What is the number of dimensions that the resulting dataset would have?

6. Will you use vanilla PCA, incremental PCA, randomized PCA, or kernel PCA in which situations?

7. How do you assess a dimensionality reduction algorithm's success on your dataset?

8. Is it logical to use two different dimensionality reduction algorithms in a chain?