Q1. If you have any, what are your choices for increasing the comparison between different figures on the same graph?

To increase the comparison between different figures on the same graph, you can adjust the scales of the axes, use different colors or line styles for the figures, add legends or labels, and choose appropriate plot types (e.g., bar, line, scatter) that highlight the differences.

Q2. Can you explain the benefit of compound interest over a higher rate of interest that does not compound after reading this chapter?

Compound interest benefits from interest being calculated on both the initial principal and the accumulated interest over time. This compounding effect leads to exponential growth and higher returns compared to a higher simple interest rate that doesn't compound.

Q3. What is a histogram, exactly? Name a numpy method for creating such a graph.

A histogram is a graphical representation of the distribution of a dataset. It displays the frequency or count of data points within specified intervals (bins). A numpy method for creating a histogram is numpy.histogram().

Q4. If necessary, how do you change the aspect ratios between the X and Y axes?

To change the aspect ratios between the X and Y axes, you can use the plt.gca().set\_aspect() method in Matplotlib, where you can specify the aspect ratio value or 'equal' to make the axes equally spaced.

Q5. Compare and contrast the three types of array multiplication between two numpy arrays: dot product, outer product, and regular multiplication of two numpy arrays.

* Dot product: Computes the sum of the element-wise products of two arrays, resulting in a scalar or a 1D array.
* Outer product: Computes the pairwise products of elements from two arrays to create a new array with the shape (m, n), where m and n are the dimensions of the input arrays.
* Regular multiplication: Performs element-wise multiplication, multiplying corresponding elements of two arrays.

Q6. Before you buy a home, which numpy function will you use to measure your monthly mortgage payment?

To calculate your monthly mortgage payment, you can use the numpy financial function numpy.pmt().

Q7. Can string data be stored in numpy arrays? If so, list at least one restriction that applies to this data.

Yes, string data can be stored in numpy arrays. However, a restriction is that the strings must be of fixed length, and the maximum length must be defined in advance when creating the array. This can lead to memory inefficiencies if the strings have varying lengths.