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

Line graphs are used to track changes over short and long periods of time. When smaller changes exist, line graphs are better to use than bar graphs. Line graphs can also be used to compare changes over the same period of time for more than one group.

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 **causes your wealth to grow faster**. It makes a sum of money grow at a faster rate than simple interest because you will earn returns on the money you invest, as well as on returns at the end of every compounding period. This means that you don't have to put away as much money to reach your goals!

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

Histogram() function which **represents the frequency of data distribution in the graphical form**. The rectangles having equal horizontal size corresponds to class interval called bin and variable height corresponding to the frequency.

### [NumPy.histogram()](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiH6bDWzPn7AhXREogKHVkdDWQQFnoECAkQAw&url=https%3A%2F%2Fwww.geeksforgeeks.org%2Fnumpy-histogram-method-in-python%2F&usg=AOvVaw3HSjCJPVyAYgLvM4AULQyM)

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

can change the aspect ratio **using the pbaspect function**. Set the ratio as a three-element vector of positive values that represent the relative axis lengths.

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.

|  |  |
| --- | --- |
| **Function** | **Description** |
| np.matmul(array a, array b) | Returns matrix product of two given arrays |
| np.multiply(array a, array b) | Returns element-wise multiplication of two given arrays |
| np.dot(array a, array b) | Returns scalar or dot product of two given arrays |

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

**pmt(rate, nper, pv)** where: rate = The periodic (monthly) interest rate. nper = The number of payment periods (months) in the lifespan of the mortgage loan.

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

Yes. The dtype of any numpy array containing string values is the maximum length of any string present in the array. Once set, **it will only be able to store new string having length not more than the maximum length at the time of the creation**.