1. What is the difference between VLOOKUP and INDEX/MATCH?

* VLOOKUP: This function looks for a value in the first column of a table and returns a value in the same row from a specified column. It's simpler but less flexible.
* INDEX/MATCH: Using these functions together allows you to look up a value in any column and return a value from any row. It's more flexible and powerful than VLOOKUP and can handle more complex lookups.

2. How do you create a dynamic named range?

* A dynamic named range automatically adjusts its size when you add or remove data. You can create one using formulas like `OFFSET` and `COUNTA`. Example: `=OFFSET(Sheet1!$A$1, 0, 0, COUNTA(Sheet1!$A:$A), 1)`.

3. Explain what pivot tables are and how they are used.

* Pivot tables are interactive tables that allow you to quickly summarize, analyze, explore, and present large amounts of data. You can drag and drop fields to create different views, making it easy to spot trends and patterns.

4. What are array formulas, and how do you use them?

* Array formulas perform multiple calculations on one or more items in an array. They are entered with `Ctrl+Shift+Enter` and can be used for tasks like summing ranges with multiple criteria.

5. How do you use conditional formatting to highlight cells based on specific criteria?

* Conditional formatting allows you to apply different formatting styles to cells that meet specific criteria. You can set up rules using the Conditional Formatting menu and choose from predefined formats or create custom ones.

6. What is the purpose of the IFERROR function in Excel?

* The `IFERROR` function is used to trap and handle errors in formulas. It allows you to specify a value to return if the formula results in an error. Example: `=IFERROR(A1/B1, "Error")`.

7. How can you use Power Query to clean and transform data?

* Power Query allows you to connect to various data sources, clean and transform data by removing duplicates, splitting columns, changing data types, and much more. It provides a user-friendly interface for data manipulation.

8. Explain the difference between a function and a formula in Excel.

* A formula is an expression that calculates the value of a cell. Functions are predefined formulas in Excel. For example, `=SUM(A1:A10)` is a formula, and `SUM` is the function used within it.

9. How do you create and use macros in Excel?

* Macros automate repetitive tasks. You can record a macro using the macro recorder or write one in VBA (Visual Basic for Applications). To use a macro, you assign it to a button or run it from the Developer tab.

10. What is the difference between absolute and relative cell references?

* Relative references change when a formula is copied to another cell (`A1`). Absolute references remain constant (`$A$1`). Mixed references combine both (`A$1` or `$A1`).

11. How can you protect a worksheet or workbook in Excel?

* You can protect a worksheet by going to the Review tab and clicking "Protect Sheet." You can protect the entire workbook by selecting "Protect Workbook" and setting a password.

12. What are the advantages of using structured references in Excel tables?

* Structured references use table names and column headers, making formulas easier to read and maintain. They automatically adjust when data is added or removed from the table.

13. How do you create a chart in Excel and customize its appearance?

* To create a chart, select the data, go to the Insert tab, and choose a chart type. You can customize it using the Chart Tools, adjusting elements like titles, labels, and colors.

14. What is the purpose of the OFFSET function in Excel?

* `OFFSET` returns a reference to a range that is a specified number of rows and columns from a cell or range. It's useful for creating dynamic ranges and performing more complex lookups.

15. How can you use the Solver tool in Excel to optimize a solution?

* Solver is an add-in for optimization problems. It adjusts the values in certain cells to find the optimal solution for a formula, subject to constraints you define. It can be accessed from the Data tab.