

ADVANCED CERTIFICATION EXAM PREP GUIDE

Everything you need to know to
prepare for and pass the exam.

TAKE YOUR SUPERHERO STATUS TO THE NEXT LEVEL



The world is full of valuable data that's just waiting to be analyzed. Luckily, there's analytic superheroes like you who harness their Alteryx powers to turn data into insights. With your advanced Alteryx analytic skills you're able to tackle complex data sets, analyze spatial data, and empower others through reports and analytic applications. You're the superhero the analytics world needs.

Unlike traditional certification programs that are focused only on measuring your knowledge, our program is designed to help you assess your strengths and weaknesses, close the gaps with meaningful learning, and apply what you've learned so you can use your **superpowers** to **solve the impossible**.

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THE PATH TO CERTIFICATION SUCCESS

1
Study
and
Prepare

2
Take
the
Exam

3
Never.
Stop.
Learning.

Prepare for the exam by reading this guide and taking the [Advanced Certification Prep Training](#). Once you know what's on the exam, complete the self-assessment to identify your strengths and weaknesses. Use the Advanced Curriculum to study for the exam and sharpen your skills. Take the practice exam at the end of this guide.

From the [Certification page](#) you can take the exam on-demand. The exam isn't just a test, it's also part of the learning journey. Our certifications are designed to be low-pressure so you can focus on learning, not just passing. If you don't pass on your first attempt, identify areas of difficulty and study up before taking the exam again.

Passing the exam isn't the end – it's just the beginning. Continue your certification journey by earning a Mastery or Expert certification, share your knowledge with others on Alteryx Community, or join a User Group.

EXAM FORMAT

The Advanced exam is designed to help you prove and *improve* your skills: it's free, online, on-demand, and open-book.

The Alteryx Designer Advanced certification exam allows users to demonstrate their higher-level abilities with Alteryx Designer. The exam builds on concepts included in the Core exam and also requires users to understand a wider breadth of tool functionality and apply their knowledge to more complex applications.

Audience: Anyone who is currently Core Certified

Experience level: Advanced

Price: Free

Exam type: Online, on-demand

Time Allotted: 2 hours

Passing Score: 80%

References: Open Book

Prerequisites: Passing the Core Certification exam

Questions: 44

Question Types: 40 multiple choice questions, 4 practical application questions

Point Values: 1 pt for multiple choice, 10 points for practical application questions

Attempts: 1 attempt every 7 days

Version: The exam tests on the latest version of Designer.

EXAM OUTLINE

The Alteryx Designer Advanced exam measures a candidate's knowledge and skills related to the following objectives.

The candidate should be able to demonstrate their ability to do the following with all tools covered on the exam:

- Identify the functionality, strengths, and limitations of the tool
- Identify when the tool would be used to create a given output
- Configure the tool to create a given output
- Differentiate the functionality of similar tools

Advanced Preparation

- Tools: Multi-Field Binning, Multi-Field Formula, Multi-Row Formula, Random Percent Sample
- Correctly format string expressions to produce a given output
- Identify the specifiers and separators that transform a given date

Advanced Join & Parse

- Tools: Join Multiple, Make Group, RegEx
- Determine the number of records that results from a multidimensional join
- Identify the regular expression that would transform a given input to a given output

Spatial Analytics

- Tools: Buffer, Create Points, Distance, Find Nearest, Generalize, Poly-Build, Poly-Split, Spatial Info, Spatial Match, Spatial Process, Trade Area
- Identify the spatial tools that include an embedded Select
- Identify which tools can generate the centroid of a polygon
- Identify which tools use the drivetime engine
- Interpret the results of interactions between Target and Universe objects





Reporting

- Tools: Interactive Chart, Layout, Overlay, Render, Report Map, Report Text, Table
- Identify reporting tools with optional input anchors
- Describe how to produce point and polygon objects on a Report Map



Macros

- Tools: Control Parameter, Macro Input, Macro Output
- Determine which kind of macro (standard, iterative, batch, location optimizer) is the best solution for a given scenario
- Identify the number of outputs that are possible with an iterative macro



Applications

- Tools: Action, Check Box, Drop Down, Error Message, File Browse, Folder Browse, List Box, Map, Numeric Up Down, Radio Button, Tree
- Identify the Interface tools used to create a given App interface
- Determine when an Action tool is required between Interface and workflow tools
- Identify which Interface tools can be used to input or output data in an App



Data Investigation

- Tools: Association Analysis, Field Summary, Frequency Table, Pearson Correlation, Scatterplot, Spearman Correlation
- Interpret the output of Data Investigation tools and draw conclusions
- Identify the possible input data types for Data Investigation tools

Practical Application

- Questions in the practical application section gauge your ability to use the above tools to solve questions. These questions require you to connect to a provided data set in Alteryx Designer and build a workflow to arrive at the correct answer.

SELF-ASSESSMENT

Use this sheet to assess the strength of your advanced Alteryx Designer superpowers. For each superpower listed, rate your strength from 1-3, with the following scale:

1 = Weak, 2 = Moderately Strong, 3 = Superhuman Strength

This list is not all-inclusive, but should help you decide which areas to focus on before attempting the exam. Each number you select counts towards your overall superpower rating on the following page.

Superpower

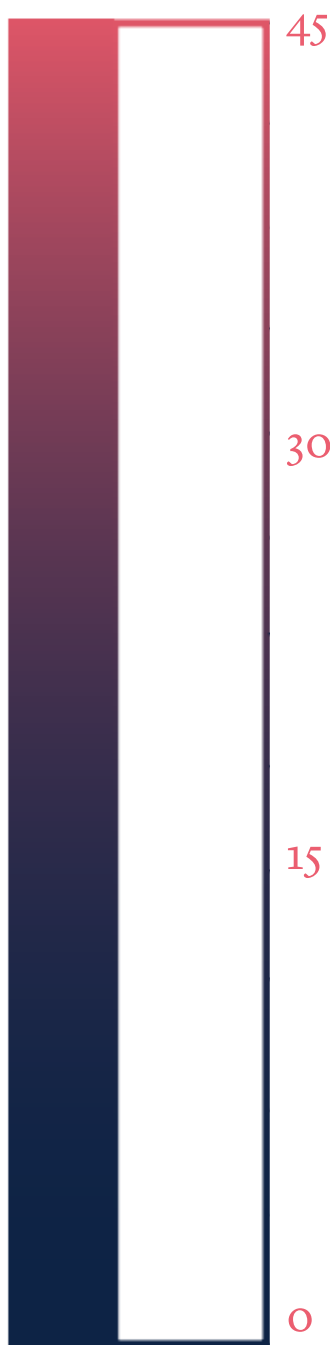
Strength Scale

| | | | |
|--|---|---|---|
| Preparing data with Multi-Field and Multi-Row tools. | 1 | 2 | 3 |
| Parsing data with the RegEx tool. | 1 | 2 | 3 |
| Blending data with advanced join tools. | 1 | 2 | 3 |
| Creating complex trade areas. | 1 | 2 | 3 |
| Finding the distance between spatial objects. | 1 | 2 | 3 |
| Calculating spatial objects' length or area. | 1 | 2 | 3 |
| Constructing spatial objects. | 1 | 2 | 3 |
| Configuring and analyzing Target and Universe objects. | 1 | 2 | 3 |
| Creating reports with multiple snippets. | 1 | 2 | 3 |
| Creating reports with maps. | 1 | 2 | 3 |
| Building standard macros. | 1 | 2 | 3 |
| Building iterative and batch macros. | 1 | 2 | 3 |
| Creating analytic applications. | 1 | 2 | 3 |
| Customizing apps with the Interface Designer. | 1 | 2 | 3 |
| Interpreting graphical and statistical outputs. | 1 | 2 | 3 |

When assessing your skill level with each tool, remember that you'll need to be able to do the following on the exam:

- 1) Identify the functionality, strengths, and limitations of the tool
- 2) Identify when the tool would be used to create a given output
- 3) Configure the tool to create a given output
- 4) Differentiate the functionality of similar tools

Add up all of the points from the self-assessment on the previous page, and fill in the thermometer with your score to see your superpower strength rating. Use your score and the certification preparedness key to gauge your readiness for the exam. If your score is less than 35, use the Advanced Curriculum on the next page to study for the exam and strengthen your skills.



Certification Preparedness Key:

- 1-10: Just getting started
- 11-20: Advanced Recruit
- 21-30: Advanced Apprentice
- 31-40: Advanced Sidekick
- 41-45: Advanced Superhero

CURRICULUM



The Alteryx Academy provides several modalities for learning, including interactive lessons, live training, and weekly challenges.

Use the results from your self-assessment to guide your study efforts. If you're new to the concepts on the exam, complete the curriculum sequentially to learn the knowledge and skills needed to become Advanced Certified. Make sure you're logged into the [Alteryx Community](#) to access all training.

Advanced Preparation

Interactive Lessons:

- [Preparing Data with String Functions](#)
- [Calculations with Dates and Times](#)
- [How to Fill Your Data](#)

Recorded Live Training:

- [Tips and Tricks - Underrated Tools](#)

Documents:

- [Random % Sample Tool](#)
- [Multi-Field Binning Tool](#)

Advanced Join & Parse

Recorded Live Training:

- [Parsing with Regular Expressions](#)

Documents:

- [RegEx](#)
- [Join Multiple](#)
- [Make Group](#)

Reporting

Recorded Live Training:

- [Introduction to Reporting](#)
- [Reporting for Intermediate Users](#)

Spatial Analytics

Recorded Live Training:

- [Spatial Analytics for Intermediate Users](#)

Interactive Lessons:

- [Viewing Spatial Objects](#)
- [Understanding Spatial Objects](#)
- [Creating Spatial Objects](#)
- [Constructing Trade Areas](#)
- [Splitting Spatial Objects](#)
- [Calculating Distance](#)
- [Relating Spatial Objects](#)
- [Identifying Nearest Objects](#)
- [Spatially Joining Data](#)
- [Using Spatial Functions](#)

Macros

Recorded Live Training:

- [Build Your First Macro](#)
- [Build Your First Batch Macro](#)
- [Build Your First Iterative Macro](#)

Documents:

- [Macro Input](#)
- [Control Parameter](#)

Analytic Applications

Recorded Live Training:

- [Analytic App Development for Intermediate Users](#)

Interactive Lessons:

- [Using Analytic Applications](#)
- [Using the Interface Designer](#)
- [Specifying Inputs and Outputs](#)
- [Using List Boxes](#)
- [Creating Drop Downs](#)
- [Using Numeric Up Downs](#)
- [Entering Free-form Text](#)
- [Customizing Error Messages](#)
- [Implementing Conditional Routing](#)
- [Chaining Analytic Apps](#)

Data Investigation

Documents:

- [Pre-Predictive: Using the Data Investigation Tools \(4 parts\)](#)
- [Data Investigation Tools](#)

Practical Application

Weekly Challenges:

- [Let's Get Crafty! \(apps\)](#)
- [Draw 1,000 Apples in Under 60 Seconds \(macros\)](#)
- [Where to Host an Event \(spatial\)](#)
- [Reduce the Manual Inputs! \(macros\)](#)
- [Ranking Data \(advanced prep\)](#)
- [Map Hurricane Harvey \(spatial\)](#)

Exam Preparation

Recorded Live Training:

- [Advanced Exam Prep Session](#)

Additional Resources

Read about each tool's functionality and configuration in the [Help Documentation](#) and [Tool Mastery](#) series. See each tool in action in Designer with One Tool Examples. To the Help Menu > Sample Workflows > Learn One Tool at a Time.

PRACTICE

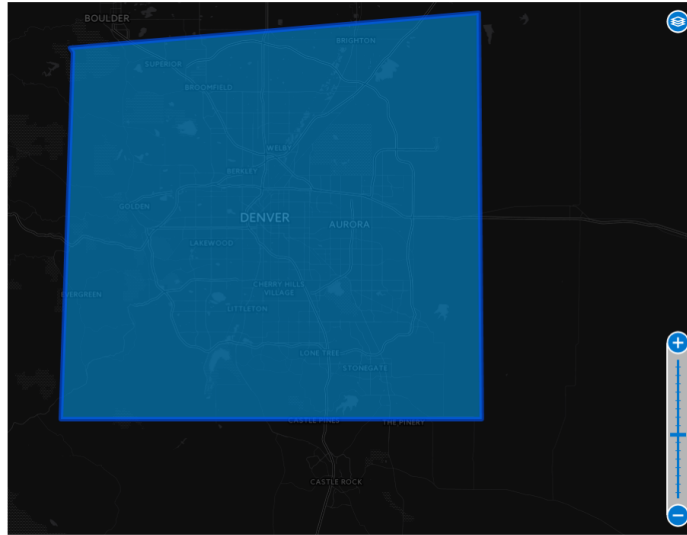
EXAM

Get a feel for the questions on the exam.
and test out your analytic superpowers.

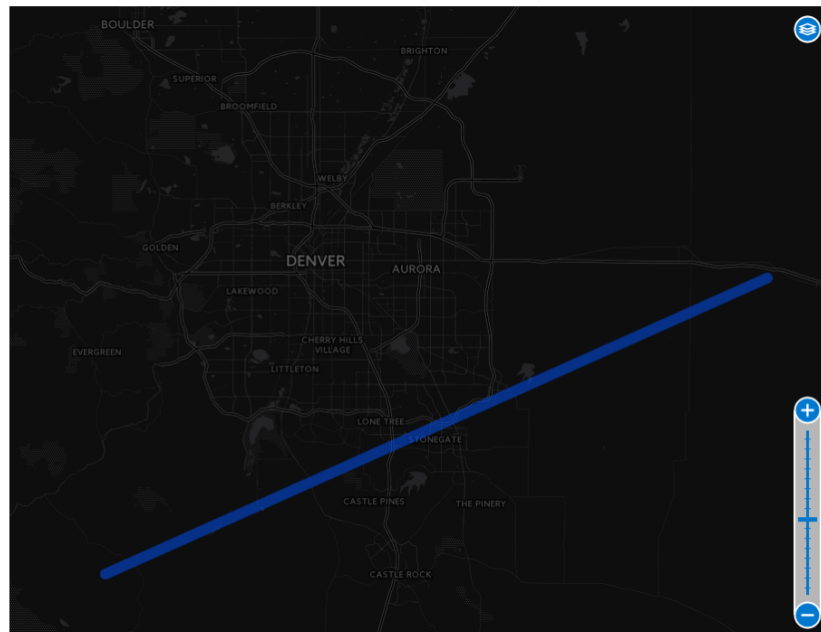
QUESTION #1

What is the resulting intersection object that is created from the following objects:

Polygon:



Line:



- A) A set of spatial points
- B) A polygon object
- C) A line object
- D) An intersection between two different object types is not allowed

QUESTION

#2

Which reporting tool has an optional input anchor?

- A) Report Text
- B) Report Map
- C) Footer
- D) Header

QUESTION #3

Which interface tools were used to create the analytic application shown below? Select all that apply.

The screenshot shows a web application interface with a title bar 'Questions'. It contains two main sections. The first section is titled 'Search by eligibility criteria' and has a radio button selected. Below it is a 'Select Scholarship Criteria' section with a list of criteria: Engineering (checked), Female (checked), Fine Arts (unchecked), First Generation College Student (checked), Graduate School Prospect (unchecked and highlighted), and Humanities Major (unchecked). To the right of this list is a vertical scrollbar and a menu icon. Below the list is a 'Save my results to a file' checkbox (checked) and a 'Save file as' dropdown menu. The second section is titled 'Search open scholarships' and has a radio button unselected. Below it is a 'Select a Student Type' dropdown menu with 'Current' selected. At the bottom of this section is a 'Save my results as a file...' checkbox (unchecked).

- A) Radio Button
- B) List Box
- C) File Browse
- D) Drop Down
- E) Check Box

QUESTION

#4

Which regular expression used with the Parse output method of the RegEx tool will achieve the desired result?

Input:

| CustomerID | Name |
|------------|----------------|
| 559 | PAMELA WRIGHT |
| 263 | DENISE PENTICO |
| 4566 | DOROTHY COLE |
| 898 | STACEY BLICKER |



Desired Result:

| CustomerID | Name | First Name | Last Name |
|------------|----------------|------------|-----------|
| 559 | PAMELA WRIGHT | PAMELA | WRIGHT |
| 263 | DENISE PENTICO | DENISE | PENTICO |
| 4566 | DOROTHY COLE | DOROTHY | COLE |
| 898 | STACEY BLICKER | STACEY | BLICKER |

- A) (a-z)\s(a-z)
- B) ([a-z]+)([a-z]+)
- C) ([a-z]*)\t([a-z]*)
- D) ([a-z]+)\s([a-z]+)

QUESTION #5

You are investigating profits (measured in thousands of dollars) at your restaurant. You get the following output from the Association Analysis tool. Given the output, which statements are correct? Select all that apply.

Spearman Correlation Analysis

Focused Analysis on Field Profit

| | Association Measure | p-value |
|---------------------|---------------------|-----------------|
| Advertising | 0.3100774 | 6.7283e-06 **** |
| Average.Temperature | -0.1703829 | 1.5083e-02 * |
| Number.of.Staff | 0.0093054 | 8.9517e-01 |

Full Correlation Matrix

| | Profit | Advertising | Average.Temperature | Number.of.Staff |
|---------------------|------------|-------------|---------------------|-----------------|
| Profit | 1.0000000 | 0.3100774 | -0.1703829 | 0.0093054 |
| Advertising | 0.3100774 | 1.0000000 | 0.3607518 | 0.7480575 |
| Average.Temperature | -0.1703829 | 0.3607518 | 1.0000000 | 0.6490917 |
| Number.of.Staff | 0.0093054 | 0.7480575 | 0.6490917 | 1.0000000 |

Matrix of Corresponding p-values

| | Profit | Advertising | Average.Temperature | Number.of.Staff |
|---------------------|------------|-------------|---------------------|-----------------|
| Profit | | 6.7283e-06 | 1.5083e-02 | 8.9517e-01 |
| Advertising | 6.7283e-06 | | 1.2413e-07 | 0.0000e+00 |
| Average.Temperature | 1.5083e-02 | 1.2413e-07 | | 0.0000e+00 |
| Number.of.Staff | 8.9517e-01 | 0.0000e+00 | 0.0000e+00 | |

- A) There is a statistically significant linear relationship between Advertising and Profit
- B) Based on the correlation matrix, as the average temperature increases by 1 degree, profit decreases by approximately \$170.39
- C) Number of staff is not significantly related to Profit
- D) There may be a problem with multi-collinearity between Average Temperature and Advertising

QUESTION

#6

Practical Application Question

You are investigating recent [UFO activity](#) in Colorado. Given the provided dataset on UFO sightings in Colorado, determine the number of reported sightings that happened within 5 miles and 10 minutes of another sighting. (Hint: Count each sighting individually. If two sightings are within the required distance and time of one another, both sightings count towards the total).

- A) 34
- B) 36
- C) 39
- D) 40
- E) 43

ANSWER KEY

Question 1) C.

This question tests your knowledge of the Spatial Process tool, which allows you to create a new spatial object from the combination or intersection of two spatial objects. When spatial objects intersect, the resulting object is the object with the simpler geometry. In this scenario, the resulting object would be the line since it is simpler than the polygon.

Question 2) A.

This question tests your knowledge of reporting tools, as well as optional inputs. Optional inputs are indicated by a light gray input anchor. The Report Map, Header, and Footer tools all require input data. The Report Text tool has an optional input anchor - you can connect this tool to incoming data, or you can populate the tool with your own data. This tool is helpful when you'd like to add text to a report that isn't already included in your data set.

Question 3) A., B., C., D., E.

All of the tools were used to create the app:

The screenshot shows the 'Questions' tool interface with several UI elements highlighted by red arrows and labels:

- Radio Button:** Points to the selected radio button for 'Search by eligibility criteria'.
- List Box:** Points to the list of scholarship criteria, with 'Graduate School Prospect' selected.
- Check Box:** Points to the checked checkbox for 'Save my results to a file'.
- File Browse:** Points to the 'Save file as' text input field.
- Drop Down:** Points to the 'Current' dropdown menu under 'Select a Student Type'.

Question 4) D.

This question tests your knowledge of regular expressions and the RegEx tool. In this scenario, the desired result is splitting the first and last names into separate columns, so we'll want to write an expression that looks for a pattern of a word (first name) followed by a space, followed by another word (last name). In a regular expression, anything in between a set of parentheses is called a "group." For this question, we want to parse out two groups from the string. We'll break down the correct expression (option D) to explain what each part represents:

`[a-z]+` → represents the first group, which can be any series of letters

`[a-z]` → represents a string with any letter (between a and z)

`+` → represents the quantity one or more

`\s` → represents a space

Taken together, the expression: `([a-z]+)\s([a-z]+)` results in a string, followed by a space, followed by another string. Since the RegEx tool was configured to parse, the two strings are each put into their own column.

Question 5) C., D.

This question tests your knowledge of Spearman Correlations. Option A is incorrect because it says the relationship is linear. Spearman measures monotonic relationships. A Pearson correlation would measure a linear relationship. Option B is incorrect because the statement treats the correlation value like the coefficient on a variable in a linear regression. The value -0.1703829 measures the strength of the correlation and does not specify how much the values rise or fall in relation to one another. Option C is correct because the p-value between Number of Staff and Profit is $.89517$, which is far too high to be statistically significant. Option D is correct because the p-value between Advertising and Average Temperature is low enough for there to be a statistically significant relationship between them potentially causing multicollinearity.

Question 6) C.



There are many ways to approach this problem. Although the following process works, your workflow doesn't have to match it. First, a record ID was added to make identifying individual records simple. To determine which reported sightings were within 5 miles of another sighting, several steps were needed. The latitude and longitude were turned into centroids, and 5 mile trade areas were created for each centroid. The dataset was appended to itself so that every possible combination could be examined. A Spatial Process tool was then used to create the intersection objects between the trade areas and appended centroids. All combinations where no intersection existed were filtered out of the data. Of the remaining combinations that were within 5 miles of one another, the amount of time between the sightings had to be calculated. The date/time information was converted to Alteryx DateTime format, the difference between those times was calculated, and any combination that was more than 10 minutes apart was filtered out of the data. Lastly, a Unique tool was used to remove any records that were duplicated (forgetting this step incorrectly yields answer D).