### rank theorem linear algebra

rank theorem linear algebra is a fundamental concept that plays a crucial role in understanding the structure of linear transformations and matrices. This theorem establishes a critical relationship between the dimensions of the kernel and image of a linear transformation, providing insights into the solvability of linear equations. In this article, we will explore the rank theorem in detail, discussing its definition, implications, and applications within the field of linear algebra. Additionally, we will delve into the concepts of rank, nullity, and their significance, as well as provide examples to illustrate these ideas. This comprehensive examination will equip readers with a robust understanding of the rank theorem and its importance in theoretical and applied mathematics.

- Introduction to the Rank Theorem
- Understanding Rank and Nullity
- The Statement of the Rank Theorem
- Applications of the Rank Theorem
- Examples Illustrating the Rank Theorem
- Conclusion
- FAQ

### Introduction to the Rank Theorem

The rank theorem linear algebra is a statement that connects the rank and nullity of a linear transformation. The rank of a linear transformation refers to the dimension of its image, while the nullity refers to the dimension of its kernel. Understanding these dimensions is crucial for solving linear equations and analyzing the properties of linear transformations. The rank theorem is essential for both theoretical explorations in linear algebra and practical applications in various fields such as engineering, physics, and computer science.

This section will provide a foundational understanding of the concepts of rank and nullity, which are pivotal to grasping the rank theorem. Knowing these definitions will allow for a deeper comprehension of the implications of the theorem itself, as well as its applicability in solving real-world problems.

### **Understanding Rank and Nullity**

### **Definitions of Rank and Nullity**

In the context of linear transformations, the rank is defined as the dimension of the image of the transformation. Formally, if  $\ (T: V \mid W)$  is a linear transformation from vector space  $\ (V \mid W)$  to vector space  $\ (W \mid W)$ , then the rank of  $\ (T \mid W)$  is given by:

```
Rank(T) = dim(im(T))
```

where  $\ (im(T) \ )$  is the image of  $\ (T \ )$ . The image consists of all vectors in  $\ (W \ )$  that can be expressed as  $\ (T(v) \ )$  for some  $\ (v \ )$ .

On the other hand, the nullity of a linear transformation is defined as the dimension of its kernel. The kernel of (T) is the set of all vectors in (V) that are mapped to the zero vector in (W). Formally, the nullity is defined as:

```
Nullity(T) = dim(ker(T))
```

where  $\ (\ker(T) \ )$  is the kernel of  $\ (T \ )$ . This dimension gives insight into how many vectors in  $\ (V \ )$  are mapped to zero by  $\ (T \ )$ .

### The Rank-Nullity Theorem

The rank-nullity theorem provides a profound relationship between the rank and nullity of a linear transformation. It states that for any linear transformation  $\ (T: V \mid T: V$ 

```
dim(V) = Rank(T) + Nullity(T)
```

This equation tells us that the dimension of the domain (V) can be expressed as the sum of the dimensions of the image and kernel. It emphasizes the balance between the information retained in the image and the information lost in the kernel.

### The Statement of the Rank Theorem

The rank theorem can be succinctly stated as follows: for a linear transformation  $\ (T: V \rightarrow V)$ , the rank of  $\ (T)$  plus the nullity of  $\ (T)$  equals the dimension of the domain  $\ (V)$ . This theorem is not only a theoretical statement but also serves as a tool for determining the properties of linear systems.

Formally, if  $\ (A )$  is an  $\ (m \times n)$  matrix representing the linear transformation  $\ (T )$ , then:

Rank(A) + Nullity(A) = n

where  $\ (\ n\ )$  is the number of columns in matrix  $\ (\ A\ )$ . This relationship is crucial when analyzing the solutions to the system of equations represented by  $\ (\ A\ )$ .

### **Applications of the Rank Theorem**

The rank theorem has numerous applications across various fields of study. In linear algebra, it is instrumental in determining the solvability of linear systems. Specifically, it helps to ascertain whether a system has no solution, a unique solution, or infinitely many solutions based on the rank of the coefficient matrix and the augmented matrix.

Some key applications include:

- **Solving Linear Systems:** The rank theorem helps in understanding the conditions under which a linear system has solutions.
- **Dimension Analysis:** It aids in analyzing the dimensions of subspaces in vector spaces.
- **Computer Graphics:** Rank is used in transformations and projections in 3D modeling.
- **Data Science:** Rank can inform dimensionality reduction techniques such as Principal Component Analysis (PCA).

### **Examples Illustrating the Rank Theorem**

To better understand the rank theorem, let us explore a couple of examples that illustrate its application and significance.

### **Example 1: A Simple Linear Transformation**

Consider the linear transformation represented by the matrix:

 $A = \{(begin\{pmatrix\} 1 \& 2 | 0 \& 0 | 3 \& 6 | end\{pmatrix\})\}$ 

To find the rank of this matrix, we can row reduce it to its echelon form:

 $A \sim \{(begin\{pmatrix\} 1 \& 2 | 0 \& 0 | 0 \& 0 end\{pmatrix\})\}$ 

The rank of (A) is 1 because there is one non-zero row. The dimension of the kernel can be calculated next. Since (A) is a (3) matrix, the nullity can be calculated as:

Nullity(A) = n - Rank(A) = 2 - 1 = 1

Thus, the rank-nullity theorem holds since:

3 = 1 + 1

### **Example 2: A More Complex System**

Now consider a more complex linear transformation represented by:

 $B = \{(begin\{pmatrix\} 1 \& 2 \& 1 | 2 \& 4 \& 2 | 3 \& 6 \& 3 | end\{pmatrix\}\})\}$ 

Row reducing this matrix, we find:

 $B \sim \{(begin\{pmatrix\} 1 \& 2 \& 1 | 0 \& 0 \& 0 | 0 \& 0 \& 0 | end\{pmatrix\})\}$ 

Here, the rank is again 1. The nullity can be calculated as:

Nullity(B) = 3 - 1 = 2

Thus, we verify that:

3 = 1 + 2

### **Conclusion**

The rank theorem linear algebra is a cornerstone concept that bridges the dimensions of the kernel and image of a linear transformation. Understanding this theorem equips mathematicians and practitioners with the tools necessary to analyze linear equations and their solutions effectively. The rank and nullity provide insights into the behavior of linear transformations and their matrices, making the rank theorem vital in both theoretical explorations and practical applications across various disciplines. Mastery of this theorem and its implications is essential for anyone delving into the field of linear algebra.

### **FAQ**

# Q: What is the significance of the rank theorem in linear algebra?

A: The rank theorem is significant as it establishes a relationship between the dimensions of the kernel and image of a linear transformation, aiding in the analysis of linear systems and their solvability.

### Q: How do you calculate the rank of a matrix?

A: The rank of a matrix can be calculated by reducing it to its row echelon form and counting the number of non-zero rows.

### Q: What is the difference between rank and nullity?

A: Rank refers to the dimension of the image of a linear transformation, while nullity refers to the dimension of its kernel. They provide insights into the structure and behavior of the transformation.

#### Q: Can the rank of a matrix exceed its dimensions?

A: No, the rank of a matrix cannot exceed the minimum of its number of rows or columns. It is always less than or equal to the smaller of these two dimensions.

## Q: How is the rank-nullity theorem applied in real-world scenarios?

A: The rank-nullity theorem is applied in various fields such as engineering, computer science, and data analysis to determine the solvability of systems and to inform dimensionality reduction techniques.

## Q: What are some common applications of the rank theorem?

A: Common applications include solving linear systems, analyzing dimensions of vector subspaces, and performing transformations in computer graphics.

### Q: How does the rank theorem relate to eigenvalues?

A: While the rank theorem focuses on dimensions related to linear transformations, eigenvalues relate to the characteristics of transformations. Understanding both concepts

provides a deeper insight into the behavior of linear systems.

### Q: What are the implications of a zero nullity?

A: A zero nullity implies that the transformation is injective, meaning that different inputs lead to different outputs, and there are no vectors in the kernel except the zero vector.

## Q: Can the rank theorem be applied to non-linear transformations?

A: The rank theorem specifically pertains to linear transformations. Non-linear transformations require different frameworks and theorems for analysis.

### **Rank Theorem Linear Algebra**

Find other PDF articles:

 $\underline{http://www.speargroupllc.com/suggest-articles-01/pdf?dataid=WUa63-7228\&title=speech-on-impact-of-social-media-on-youth.pdf}$ 

rank theorem linear algebra: Linear Algebra Alain Robert, 2005 This short but rigorous book approaches the main ideas of linear algebra through carefully selected examples and relevant applications. It is intended for students with various interests in mathematics, as well as established scientists seeking to refresh their basic mathematical culture. The book is also a good introduction to functional analysis and quantum theory since it discusses the general principles of linear algebra without finiteness assumptions.

rank theorem linear algebra: The Oxford Linear Algebra for Scientists Andre Lukas, 2022 Aimed at first-year undergraduate student in physics and engineering, this textbook combines a rigorous theoretical introduction to linear algebra with many examples, solved problems, and exercises, as well as scientific applications of the subject, including internet search, artificial intelligence, and quantum computing.

rank theorem linear algebra: An Introduction to Linear Algebra L. Mirsky, 2012-12-03 Rigorous, self-contained coverage of determinants, vectors, matrices and linear equations, quadratic forms, more. Elementary, easily readable account with numerous examples and problems at the end of each chapter.

rank theorem linear algebra: Linear Algebra Tools For Data Mining (Second Edition) Dan A Simovici, 2023-06-16 This updated compendium provides the linear algebra background necessary to understand and develop linear algebra applications in data mining and machine learning. Basic knowledge and advanced new topics (spectral theory, singular values, decomposition techniques for matrices, tensors and multidimensional arrays) are presented together with several applications of linear algebra (k-means clustering, biplots, least square approximations, dimensionality reduction techniques, tensors and multidimensional arrays). The useful reference text includes more than 600 exercises and supplements, many with completed solutions and MATLAB applications. The volume benefits professionals, academics, researchers and graduate students in the fields of pattern

recognition/image analysis, AI, machine learning and databases.

rank theorem linear algebra: Elementary Linear Algebra with Applications George Nakos, 2024-05-20 This text offers a unique balance of theory and a variety of standard and new applications along with solved technology-aided problems. The book includes the fundamental mathematical theory, as well as a wide range of applications, numerical methods, projects, and technology-assisted problems and solutions in Maple, Mathematica, and MATLAB. Some of the applications are new, some are unique, and some are discussed in an essay. There is a variety of exercises which include True/False questions, questions that require proofs, and questions that require computations. The goal is to provide the student with is a solid foundation of the mathematical theory and an appreciation of some of the important real-life applications. Emphasis is given on geometry, matrix transformations, orthogonality, and least-squares. Designed for maximum flexibility, it is written for a one-semester/two semester course at the sophomore or junior level for students of mathematics or science.

rank theorem linear algebra: Finite-Dimensional Linear Algebra Mark S. Gockenbach, 2011-06-15 Linear algebra forms the basis for much of modern mathematics—theoretical, applied, and computational. Finite-Dimensional Linear Algebra provides a solid foundation for the study of advanced mathematics and discusses applications of linear algebra to such diverse areas as combinatorics, differential equations, optimization, and approximation. The author begins with an overview of the essential themes of the book: linear equations, best approximation, and diagonalization. He then takes students through an axiomatic development of vector spaces, linear operators, eigenvalues, norms, and inner products. In addition to discussing the special properties of symmetric matrices, he covers the Jordan canonical form, an important theoretical tool, and the singular value decomposition, a powerful tool for computation. The final chapters present introductions to numerical linear algebra and analysis in vector spaces, including a brief introduction to functional analysis (infinite-dimensional linear algebra). Drawing on material from the author's own course, this textbook gives students a strong theoretical understanding of linear algebra. It offers many illustrations of how linear algebra is used throughout mathematics.

**rank theorem linear algebra: Linear Algebra** Elliott Ward Cheney, David Ronald Kincaid, 2009 Systems of linear equations -- Vector spaces -- Matrix operations -- Determinants -- Vector subspaces -- Eigensystems -- Inner-product vector spaces -- Additional topics.

rank theorem linear algebra: Numerical Linear Algebra Lloyd N. Trefethen, David Bau, III, 1997-01-01 A concise, insightful, and elegant introduction to the field of numerical linear algebra. Designed for use as a stand-alone textbook in a one-semester, graduate-level course in the topic, it has already been class-tested by MIT and Cornell graduate students from all fields of mathematics, engineering, and the physical sciences. The authors' clear, inviting style and evident love of the field, along with their eloquent presentation of the most fundamental ideas in numerical linear algebra, make it popular with teachers and students alike.

rank theorem linear algebra: Linear Algebra Klaus Jänich, 2012-12-06 The original version of this book, handed out to my students in weekly in stallments, had a certain rugged charm. Now that it is dressed up as a Springer UTM volume, I feel very much like Alfred Dolittle at Eliza's wedding. I hope the reader will still sense the presence of a young lecturer, enthusiastically urging his audience to enjoy linear algebra. The book is structured in various ways. For example, you will find a test in each chapter; you may consider the material up to the test as basic and the material following the test as supplemental. In principle, it should be possible to go from the test directly to the basic material of the next chapter. Since I had a mixed audience of mathematics and physics students, I tried to give each group some special attention, which in the book results in certain sections being marked for physicists or for mathematicians. Another structural feature of the text is its division into laconic main text, put in boxes, and more talkative unboxed side text. If you follow just the main text, jumping from box to box, you will find that it makes coherent reading, a real book within the book, presenting all that I want to teach.

rank theorem linear algebra: Linear Algebra and Its Applications Mr. Rohit Manglik,

2024-07-18 EduGorilla Publication is a trusted name in the education sector, committed to empowering learners with high-quality study materials and resources. Specializing in competitive exams and academic support, EduGorilla provides comprehensive and well-structured content tailored to meet the needs of students across various streams and levels.

rank theorem linear algebra: Linear Algebra for Physics Nikolaos A. Papadopoulos, Florian Scheck, 2024-10-13 This textbook provides a full treatment of Linear Algebra devoted to undergraduate and graduate physics students. Although the mathematical level is similar to the corresponding mathematical textbooks in regard to definitions, propositions and proofs, it adopts a language and approach more attuned to the reader's familiarity with physics lectures and physics textbooks. A distinctive feature is the emphasis placed on the significance of bases within a vector space. As a result, students gain a deeper understanding of how vector indices, despite their abundance, serve not as enemies but as friends since they give additional information about the mathematical objects being used, and facilitate access to tensor formalism. The book offers numerous worked examples and exercises with solution hints to deepen this knowledge.

rank theorem linear algebra: Linear Algebra and Matrix Computations with MATLAB® Dingyü Xue, 2020-03-23 This book focuses the solutions of linear algebra and matrix analysis problems, with the exclusive use of MATLAB. The topics include representations, fundamental analysis, transformations of matrices, matrix equation solutions as well as matrix functions. Attempts on matrix and linear algebra applications are also explored.

rank theorem linear algebra: Linear Algebra: Core Topics For The First Course  $\operatorname{Dragu}$  Atanasiu, Piotr Mikusinski, 2020-03-26 The book is an introduction to linear algebra intended as a textbook for the first course in linear algebra. In the first six chapters we present the core topics: matrices, the vector space  $\mathbb{R}n$ , orthogonality in  $\mathbb{R}n$ , determinants, eigenvalues and eigenvectors, and linear transformations. The book gives students an opportunity to better understand linear algebra in the next three chapters: Jordan forms by examples, singular value decomposition, and quadratic forms and positive definite matrices. In the first nine chapters everything is formulated in terms of  $\mathbb{R}n$ . This makes the ideas of linear algebra easier to understand. The general vector spaces are introduced in Chapter 10. The last chapter presents problems solved with a computer algebra system. At the end of the book we have results or solutions for odd numbered exercises.

rank theorem linear algebra: Linear Algebra and Differential Equations Alexander Givental, 2001 The material presented in this book corresponds to a semester-long course, ``Linear Algebra and Differential Equations", taught to sophomore students at UC Berkeley. In contrast with typical undergraduate texts, the book offers a unifying point of view on the subject, namely that linear algebra solves several clearly-posed classification problems about such geometric objects as quadratic forms and linear transformations. This attractive viewpoint on the classical theory agrees well with modern tendencies in advanced mathematics and is shared by many research mathematicians. However, the idea of classification seldom finds its way to basic programs in mathematics, and is usually unfamiliar to undergraduates. To meet the challenge, the book first guides the reader through the entire agenda of linear algebra in the elementary environment of two-dimensional geometry, and prior to spelling out the general idea and employing it in higher dimensions, shows how it works in applications such as linear ODE systems or stability of equilibria. Appropriate as a text for regular junior and honors sophomore level college classes, the book is accessible to high school students familiar with basic calculus, and can also be useful to engineering graduate students.

rank theorem linear algebra: Linear Algebra and Matrix Analysis for Statistics Sudipto Banerjee, Anindya Roy, 2014-06-06 Linear Algebra and Matrix Analysis for Statistics offers a gradual exposition to linear algebra without sacrificing the rigor of the subject. It presents both the vector space approach and the canonical forms in matrix theory. The book is as self-contained as possible, assuming no prior knowledge of linear algebra. The authors first address the rudimentary mechanics of linear systems using Gaussian elimination and the resulting decompositions. They introduce Euclidean vector spaces using less abstract concepts and make connections to systems of linear

equations wherever possible. After illustrating the importance of the rank of a matrix, they discuss complementary subspaces, oblique projectors, orthogonality, orthogonal projections and projectors, and orthogonal reduction. The text then shows how the theoretical concepts developed are handy in analyzing solutions for linear systems. The authors also explain how determinants are useful for characterizing and deriving properties concerning matrices and linear systems. They then cover eigenvalues, eigenvectors, singular value decomposition, Jordan decomposition (including a proof), quadratic forms, and Kronecker and Hadamard products. The book concludes with accessible treatments of advanced topics, such as linear iterative systems, convergence of matrices, more general vector spaces, linear transformations, and Hilbert spaces.

rank theorem linear algebra: Linear Algebra Serge Lang, 2013-06-29 Linear Algebra is intended for a one-term course at the junior or senior level. It begins with an exposition of the basic theory of vector spaces and proceeds to explain the fundamental structure theorems for linear maps, including eigenvectors and eigenvalues, quadric and hermitian forms, diagonalization of symmetric, hermitian, and unitary linear maps and matrices, triangulation, and Jordan canonical form. The book also includes a useful chapter on convex sets and the finite-dimensional Krein-Milman theorem. The presentation is aimed at the student who has already had some exposure to the elementary theory of matrices, determinants, and linear maps. However, the book is logically self-contained. In this new edition, many parts of the book have been rewritten and reorganized, and new exercises have been added.

rank theorem linear algebra: Applied Linear Algebra and Matrix Analysis Thomas S. Shores, 2007-08-14 This new book offers a fresh approach to matrix and linear algebra by providing a balanced blend of applications, theory, and computation, while highlighting their interdependence. Intended for a one-semester course, Applied Linear Algebra and Matrix Analysis places special emphasis on linear algebra as an experimental science, with numerous examples, computer exercises, and projects. While the flavor is heavily computational and experimental, the text is independent of specific hardware or software platforms. Throughout the book, significant motivating examples are woven into the text, and each section ends with a set of exercises.

rank theorem linear algebra: Elementary Linear Algebra Stephen Andrilli, David Hecker, 2022-04-05 Elementary Linear Algebra, Sixth Edition provides a solid introduction to both the computational and theoretical aspects of linear algebra, covering many important real-world applications, including graph theory, circuit theory, Markov chains, elementary coding theory, least-squares polynomials and least-squares solutions for inconsistent systems, differential equations, computer graphics and quadratic forms. In addition, many computational techniques in linear algebra are presented, including iterative methods for solving linear systems, LDU Decomposition, the Power Method for finding eigenvalues, QR Decomposition, and Singular Value Decomposition and its usefulness in digital imaging. - Prepares students with a thorough coverage of the fundamentals of introductory linear algebra - Presents each chapter as a coherent, organized theme, with clear explanations for each new concept - Builds a foundation for math majors in the reading and writing of elementary mathematical proofs

rank theorem linear algebra: A Textbook of B.Sc. Mathematics Linear Algebra V Venkateswara Rao, N Krishnamurthy, B V S S Sarma S Anjaneya Sastry, S Ranganatham & Dr. R Bharavi Sharma, This Textbook of B.Sc Mathematics for the students studying third year first semester in all universities of Telangana state was first published in the year 1988 and has undergone several editions and many reprints.

rank theorem linear algebra: Linear Algebra I: Basic Concepts Kazuo Murota, Masaaki Sugihara, 2022-07-13 This is the first volume of the two-volume book on linear algebra, in the University of Tokyo (UTokyo) Engineering Course. The objective of this volume is to present, from the engineering viewpoint, the standard mathematical results in linear algebra such as those on systems of equations and eigenvalue problems. In addition to giving mathematical theorems and formulas, it explains how the mathematical concepts such as rank, eigenvalues, and singular values are linked to engineering applications and numerical computations. In particular, the following four

### Related to rank theorem linear algebra

Rankdle - Guess the rank or guess the elo in Valorant, League of Rankdle is an interactive game for content creators to react to their viewer submissions! Players challenge themselves to rank things and go head-to-head with the content creator

**Rainbow Six Siege Guess the Rank** Guess the rank for 3 Rainbow Six Siege clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out of 6 stars to keep your daily streak

**Valorant Guess the Rank** Daily Valorant Guess the Rank! Guess the rank for 3 Valorant clips. Collect stars based on how close you guess One rank off:  $\Box$  Correct rank:  $\Box$  Try to get at least 2 out of 6 stars to

**Rocket League Guess the Rank** Daily Rocket League Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out

**Rankdle - Guess the Rank** Guess the rank for 3 clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out of 6 stars to keep your daily streak alive! Come back

Rankdle - Guess the rank or guess the elo in Valorant, League of Host your own Rankdle Event to help engage your audience with viewer submissions

**Apex Legends Guess the Rank** Daily Apex Legends Guess the Rank! Guess the rank for 3 Apex Legends clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$   $\square$  Try to get at least 2 out

**League of Legends Guess the Rank** Guess the rank for 3 League Of Legends clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out of 6 stars to keep your daily streak

**CS:GO Guess the Rank** Daily CS:GO Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out of 6 stars

**Overwatch 2 Guess the Rank** Guess the rank for 3 Overwatch 2 clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out of 6 stars to keep your daily streak alive!

Rankdle - Guess the rank or guess the elo in Valorant, League of Rankdle is an interactive game for content creators to react to their viewer submissions! Players challenge themselves to rank things and go head-to-head with the content creator

**Rainbow Six Siege Guess the Rank** Guess the rank for 3 Rainbow Six Siege clips. Collect stars based on how close you guess One rank off: [] Correct rank: [] [] Try to get at least 2 out of 6 stars to keep your daily streak

**Valorant Guess the Rank** Daily Valorant Guess the Rank! Guess the rank for 3 Valorant clips. Collect stars based on how close you guess One rank off:  $\Box$  Correct rank:  $\Box$  Try to get at least 2 out of 6 stars to

**Rocket League Guess the Rank** Daily Rocket League Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$   $\square$  Try to get at least 2 out

**Rankdle - Guess the Rank** Guess the rank for 3 clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out of 6 stars to keep your daily streak alive! Come back

Rankdle - Guess the rank or guess the elo in Valorant, League of Host your own Rankdle Event to help engage your audience with viewer submissions

**Apex Legends Guess the Rank** Daily Apex Legends Guess the Rank! Guess the rank for 3 Apex Legends clips. Collect stars based on how close you guess One rank off: [] Correct rank: [] [] Try to

get at least 2 out

**League of Legends Guess the Rank** Guess the rank for 3 League Of Legends clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out of 6 stars to keep your daily streak

**CS:GO Guess the Rank** Daily CS:GO Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off: ☐ Correct rank: ☐ ☐ Try to get at least 2 out of 6 stars

**Overwatch 2 Guess the Rank** Guess the rank for 3 Overwatch 2 clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out of 6 stars to keep your daily streak alive!

Rankdle - Guess the rank or guess the elo in Valorant, League of Rankdle is an interactive game for content creators to react to their viewer submissions! Players challenge themselves to rank things and go head-to-head with the content creator

**Rainbow Six Siege Guess the Rank** Guess the rank for 3 Rainbow Six Siege clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$   $\square$  Try to get at least 2 out of 6 stars to keep your daily streak

**Valorant Guess the Rank** Daily Valorant Guess the Rank! Guess the rank for 3 Valorant clips. Collect stars based on how close you guess One rank off:  $\Box$  Correct rank:  $\Box$  Try to get at least 2 out of 6 stars to

**Rocket League Guess the Rank** Daily Rocket League Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out

**Rankdle - Guess the Rank** Guess the rank for 3 clips. Collect stars based on how close you guess One rank off: 

Correct rank: 

Try to get at least 2 out of 6 stars to keep your daily streak alive! Come back

Rankdle - Guess the rank or guess the elo in Valorant, League of Host your own Rankdle Event to help engage your audience with viewer submissions

**Apex Legends Guess the Rank** Daily Apex Legends Guess the Rank! Guess the rank for 3 Apex Legends clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$   $\square$  Try to get at least 2 out

**League of Legends Guess the Rank** Guess the rank for 3 League Of Legends clips. Collect stars based on how close you guess One rank off:  $\Box$  Correct rank:  $\Box$  Try to get at least 2 out of 6 stars to keep your daily streak

**CS:GO Guess the Rank** Daily CS:GO Guess the Rank! Guess the rank for 3 Rocket League clips. Collect stars based on how close you guess One rank off:  $\Box$  Correct rank:  $\Box$  Try to get at least 2 out of 6 stars

**Overwatch 2 Guess the Rank** Guess the rank for 3 Overwatch 2 clips. Collect stars based on how close you guess One rank off:  $\square$  Correct rank:  $\square$  Try to get at least 2 out of 6 stars to keep your daily streak alive!

Back to Home: <a href="http://www.speargroupllc.com">http://www.speargroupllc.com</a>