Proof Statistic Challenges

Week 1

Quiz 1: Practice quiz on sets

✓ **Herzlichen Glückwunsch! Sie haben bestanden!** Lernen Sie weiter

ZUM BESTEHEN 75 % oder höher

BEWERTUNG 100%

Practice quiz on Sets

GESAMTPUNKTZAHL 3

1. Let $A = \{1, 3, 5\}$. Is the following statement: $3 \in A$. True or false? 1 / 1 Punkten

   - (•) True
   - ( ) False

   ✓ **Correct**
   The symbol $\in$ stands for "is an element of" and it is true that 3 is an element of A. The other two elements of A are 1 and 5.

2. Let $E = \{-1, -2, -3\}$. Compute the cardinality $|E|$ of E: 1 / 1 Punkten

   - ( ) -3
   - (•) 3

Quiz 2: Number Line

← Practice quiz on the Number Line, including Inequalities
Übungsquiz • 25 min

✓ **Herzlichen Glückwunsch! Sie haben bestanden!** Lernen Sie weiter

ZUM BESTEHEN 75 % oder höher

BEWERTUNG 100%

Practice quiz on the Number Line, including Inequalities

GESAMTPUNKTZAHL 8

1. Which of the following real numbers is ***not*** an integer? 1 / 1 Punkten

   - ( ) 0
   - ( ) -3
   - ( ) 7
   - (•) 4.3

   ✓ **Correct**
   4.3 is a decimal that is between two consecutive integers (4 and 5).

2. Which of the following is the absolute value $|-7|$ of the number -7? 1 / 1 Punkten

   - ( ) 0

Menü anzeigen

Quiz 3: Simplification Rules and Sigma Notation

Practice quiz on Simplification Rules and Sigma Notation
Übungsquiz • 20 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
100%

Practice quiz on Simplification Rules and Sigma Notation

GESAMTPUNKTZAHL 6

1. Which of the numbers below is equal to the following summation: $\Sigma_{i=1}^{3} i^2$? 1 / 1 Punkten

- 30
- 14 (selected)
- 1
- 9

Correct
We compute $\Sigma_{i=1}^{3} i^2 = 1^2 + 2^3 + 3^2 = 14$

Menü anzeigen

2. Suppose that $A = \Sigma_{k=1}^{100} k^4$ and $B = \Sigma_{i=1}^{100} i^4$ 1 / 1 Punkten

Quiz 4: Graded Quiz on Sets, Number Line, Inequalities ...

Graded quiz on Sets, Number Line, Inequalities, Simplification, and Sigma Notation
Bewerteter Test • 35 min

Fällig 16. Feb. 23:59 PST

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
92.3%

Graded quiz on Sets, Number Line, Inequalities, Simplification, and Sigma Notation

NEUESTE EINREICHUNGSBEWERTUNG
92.3%

1. Let $B = \{3, 5, 10, 11, 14\}$. Is the following statement true or false: $3 \notin B$ 1 / 1 Punkten

- False (selected)
- True

Correct
The symbol $\notin$ stands for "is not an element of." Since 3 is in an element of the set B, the given statement is not true.

Menü anzeigen

2. Let $A = \{1, 3, 5\}$ and $B = \{3, 5, 10, 11, 14\}$. Which of the following sets is equal to the 1 / 1 Punkten

Week 2

Quiz 1: Cartesian Plane

Practice quiz on the Cartesian Plane
Übungsquiz • 15 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
100%

Practice quiz on the Cartesian Plane

GESAMTPUNKTZAHL 5

1. Which of the following points in the Cartesian Plane is on the y-axis? — 1 / 1 Punkten

- (●) $(0, -5)$
- ( ) $(5, 0)$
- ( ) $(1, 1)$
- ( ) $(-5, 0)$

Correct
The y-axis is defined to be all points in the Cartesian plane with zero as x-coordinate. The point $(0, -5)$ meets that requirement.

Menü anzeigen

2. **Find the distance between the points $A = (2, 2)$ and $C = (3, 3)$:** — 1 / 1 Punkten

Quiz 2: Types of Functions

Practice quiz on Types of Functions
Übungsquiz • 20 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
100%

Practice quiz on Types of Functions

GESAMTPUNKTZAHL 6

1. Suppose that $A = \{1, 2, 10\}$ and $B = \{4, 8, 40\}$. Which of the following formulae do ***not*** define a function $f : A \to B$? — 1 / 1 Punkten

- ( ) $f(1) = 4$, $f(2) = 4$, and $f(10) = 4$.
- ( ) $f(a) = 4a$, for each $a \in A$
- ( ) $f(1) = 4$, $f(2) = 40$, and $f(10) = 8$.
- (●) $f(1) = 5$, $f(2) = 8$, and $f(10) = 40$.

Correct
A function $f : A \to B$ is a rule which assigns an element $f(a) \in B$ to each $a \in A$. In this case, unfortunately, $f(1) = 5 \notin B$.

Menü anzeigen

2. Suppose that A contains every person in the VDS study (see the second video in the course if — 1 / 1 Punkten

Quiz 3: Graded Quiz on Cartesian Plane and Types of Function

Graded quiz on Cartesian Plane and Types of Function
Bewerteter Test • 40 min

Fällig 23. Feb. 23:59 PST

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
92.3%

Graded quiz on Cartesian Plane and Types of Function

NEUESTE EINREICHUNGSBEWERTUNG
92.3%

1. Which of the following points in the Cartesian Plane have positive x-coordinate and negative y-coordinate?

1 / 1 Punkten

- (●) $(7, -1)$
- ( ) $(5, 7)$
- ( ) $(0, 0)$
- ( ) $(-4, 5)$

Correct
The x-coordinate, 7, is positive, and the y-coordinate, -1, is negative.

Menü anzeigen

Week 3

Quiz 1 Tangent Lines to Funtions

Practice quiz onTangent Lines to Functions
Übungsquiz • 10 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
100%

Practice quiz onTangent Lines to Functions

GESAMTPUNKTZAHL 2

1. Suppose that $f : \mathbb{R} \to \mathbb{R}$ is a function. Which of the following expressions corresponds to $f'(2)$, the slope of the tangent line to the graph of $f(x)$ at $x = 2$? — 1 / 1 Punkten

- $f'(2) = mx + b$
- $f'(2) = 2$
- $f'(2) = \lim_{h \to 0} \frac{f(a+h)-f(a)}{h}$
- $f'(2) = \lim_{h \to 0} \frac{f(2+h)-f(2)}{h}$

Correct
This expression can be obtained from the first screen of our video by plugging in 2 for a.

Menü anzeigen

Quiz 2: Exponents and Logarithms

Practice quiz on Exponents and Logarithms
Übungsquiz • 40 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
83.33%

Practice quiz on Exponents and Logarithms

GESAMTPUNKTZAHL 12

1. Re write the number $784 = 2 \times 2 \times 2 \times 2 \times 7 \times 7$ using exponents. — 1 / 1 Punkten

- $(2 \times 7)^6$
- $(2^6)(7^6)$
- $(2^4)(7^2)$
- $(16^4)(49^2)$

Correct
For this type of problem, count the number of times each relevant factor appears in the product. That number is the exponent for that factor.

Menü anzeigen

2. What is $(x^2 - 5)^0$? — 1 / 1 Punkten

Quiz 3: Graded Quiz on tangent lines to functions, exponents and logarithms

Graded quiz on Tangent Lines to Functions, Exponents and Logarithms
Bewerteter Test • 45 min

Fällig 1. März 23:59 PST

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
76.92%

Graded quiz on Tangent Lines to Functions, Exponents and Logarithms

NEUESTE EINREICHUNGSBEWERTUNG
76.92%

1. Convert $\frac{1}{49}$ to exponential form, using 7 as the factor. **1 / 1 Punkten**

- ○ (7^2)
- ○ 49^{-1}
- ◉ 7^{-2}
- ○ $\frac{7}{7^3}$

Menü anzeigen

Correct

Week 4

Quiz 1: Probability Concepts

Practice quiz on Probability Concepts
Übungsquiz • 25 min

Herzlichen Glückwunsch! Sie haben bestanden!
ZUM BESTEHEN 75 % oder höher

Lernen Sie weiter

BEWERTUNG
88.88%

Practice quiz on Probability Concepts

GESAMTPUNKTZAHL 9

1. If $x =$ "It is raining," what is $\sim (\sim x)$? **1 / 1 Punkten**

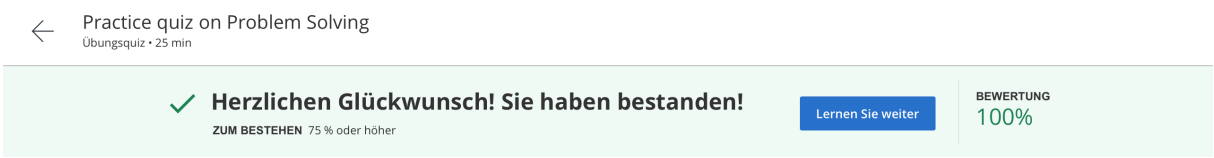
- ○ "It is always raining"
- ○ "It is never raining"
- ○ "It is not raining"
- ◉ "It is raining"

Correct
The second negation cancels out the first one.

Similarly $\sim (\sim (\sim x)) = \sim x$

Menü anzeigen

Quiz 2: Problem Solving



Practice quiz on Problem Solving

GESAMTPUNKTZAHL 9

1. I am given the following 3 joint probabilities: **1 / 1 Punkten**

p(I am leaving work early, there is a football game that I want to watch this afternoon) = .1

p(I am leaving work early, there is not a football game that I want to watch this afternoon) = .05

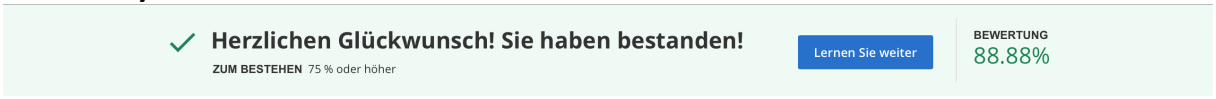
p(I am not leaving work early, there is not a football game that I want to watch this afternoon) = .65

What is the probability that there is a football game that I want to watch this afternoon?

- (●) .3
- ( ) .2

Menü anzeigen

Quiz 3: Bayes Theorem and the Binomial Theorem



Practice quiz on Bayes Theorem and the Binomial Theorem

GESAMTPUNKTZAHL 9

1. A jewelry store that serves just one customer at a time is concerned about the safety of its isolated customers. **1 / 1 Punkten**

The store does some research and learns that:

- **10% of the times that a jewelry store is robbed, a customer is in the store.**
- **A jewelry store has a customer on average 20% of each 24-hour day.**
- **The probability that a jewelry store is being robbed (anywhere in the world) is 1 in 2 million.**

What is the probability that a robbery will occur while a customer is in the store?

- ( ) $\frac{1}{500000}$
- ( ) 1

Menü anzeigen

Quiz 4: Graded Quiz – Probability Basic and Intermediate

Herzlichen Glückwunsch! Sie haben bestanden!

ZUM BESTEHEN 80 % oder höher

Lernen Sie weiter

BEWERTUNG
91.66%

Probability (basic and Intermediate) Graded Quiz

NEUESTE EINREICHUNGSBEWERTUNG
91.66%

1. What additional statement, added to the three below, forms a probability distribution? — 1 / 1 Punkten

(1) I missed only my first class today

(2) I missed only my second class today

(3) I missed both my first and second class today

Correct

Menü anzeigen

2. My friend takes 10 cards at random from a 52-card deck, and places them in a box. Then he — 1 / 1 Punkten