

Law, Culture and the Humanities

1-18

© The Author(s) 2016

Reprints and permissions:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/1743872116679392

lch.sagepub.com



21. \dots

22. \dots

23. \dots

2. \dots

2. \dots

21. \dots

22. \dots

23. \dots

2. \dots

2. \dots

-
- 31. $\int_0^1 x^2 dx = \frac{1}{3}$
 - 32. $\int_0^1 x^3 dx = \frac{1}{4}$
 - 33. $\int_0^1 x^4 dx = \frac{1}{5}$

2000 (1) 3, 101-102. (2) D. J. W. SIMMONS, *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

1. *Journal of the History of Mathematics Education Society of Japan*, 10(1977), 101-102.

2. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

3. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

4. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

5. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

6. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

7. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

8. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

9. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

10. *Journal of the History of Mathematics Education Society of Japan*, 31(1998), 101-102.

\mathbb{R}^n and \mathbb{R}^m respectively. Let \mathcal{A} be a linear map from \mathbb{R}^n to \mathbb{R}^m . We define the adjoint map \mathcal{A}^* from \mathbb{R}^m to \mathbb{R}^n by the relation $(\mathcal{A}x, y) = (x, \mathcal{A}^*y)$ for all $x \in \mathbb{R}^n$ and $y \in \mathbb{R}^m$. The adjoint map \mathcal{A}^* is uniquely determined by this property. If \mathcal{A} is represented by the matrix A relative to the standard bases of \mathbb{R}^n and \mathbb{R}^m , then \mathcal{A}^* is represented by the matrix A^T .

II. L^p Spaces

Let X and Y be normed spaces. A linear map T from X to Y is called a bounded linear operator if there exists a constant M such that $\|Tx\| \leq M\|x\|$ for all $x \in X$. The smallest such constant M is called the norm of T , denoted by $\|T\|$. If $X = Y = \mathbb{R}^n$ and T is represented by the matrix A , then $\|T\|$ is the operator norm of A .

-
0. Let U be a normed space. A linear map T from U to U is called a linear operator on U . If T is bounded, then T is called a bounded linear operator on U . The set of all bounded linear operators on U is denoted by $\mathcal{B}(U)$. If $U = \mathbb{R}^n$, then $\mathcal{B}(U)$ is isomorphic to the set of $n \times n$ real matrices.
 1. Let N be a normed space. A linear map T from N to N is called a linear operator on N . If T is bounded, then T is called a bounded linear operator on N . The set of all bounded linear operators on N is denoted by $\mathcal{B}(N)$. If $N = \mathbb{R}^n$, then $\mathcal{B}(N)$ is isomorphic to the set of $n \times n$ real matrices.
 2. Let I and J be normed spaces. A linear map T from I to J is called a linear operator from I to J . If T is bounded, then T is called a bounded linear operator from I to J . The set of all bounded linear operators from I to J is denoted by $\mathcal{B}(I, J)$. If $I = J = \mathbb{R}^n$, then $\mathcal{B}(I, J)$ is isomorphic to the set of $n \times n$ real matrices.
 3. Let L and R be normed spaces. A linear map T from L to R is called a linear operator from L to R . If T is bounded, then T is called a bounded linear operator from L to R . The set of all bounded linear operators from L to R is denoted by $\mathcal{B}(L, R)$. If $L = R = \mathbb{R}^n$, then $\mathcal{B}(L, R)$ is isomorphic to the set of $n \times n$ real matrices.

$u = (u_1, u_2, u_3)$ and $v = (v_1, v_2, v_3)$ are two vectors in \mathbb{R}^3 . We consider the following system of linear equations:

$$\begin{cases} u_1 + v_1 = 1 \\ u_2 + v_2 = 2 \\ u_3 + v_3 = 3 \end{cases}$$
 This system can be written in matrix form as $Ax = b$, where $A = \begin{pmatrix} 1 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$, $x = \begin{pmatrix} u_1 \\ u_2 \\ u_3 \end{pmatrix}$, and $b = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$. The matrix A is singular, and the system is inconsistent because the second and third rows of A are zero, but the corresponding entries in b are non-zero.

In general, a system of linear equations $Ax = b$ has a solution if and only if b is in the column space of A . For the system above, b is not in the column space of A , so there is no solution.

1.1

Consider the system $Ax = b$ where $A = \begin{pmatrix} 1 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$ and $b = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$.

The system is inconsistent because the second and third rows of A are zero, but the corresponding entries in b are non-zero.

For the system to have a solution, b must be in the column space of A . In this case, b is not in the column space of A .

[1] R. A. Horn and C. R. Johnson, *Matrix Analysis*, Cambridge University Press, 2013.
 [2] S. Friedberg, L. J. Morris, and D. Poole, *Linear Algebra and Matrix Theory*, Wiley, 2001.
 [3] G. Strang, *Linear Algebra and Introductory Quantum Mechanics*, John Wiley & Sons, 2004.
 [4] D. C. Lay, *Linear Algebra and Its Applications*, Wiley, 2012.
 [5] S. Friedberg, L. J. Morris, and D. Poole, *Linear Algebra and Matrix Theory*, Wiley, 2001.

$(\mathbb{R}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{R}, +, \cdot)$ は、 $(\mathbb{Z}, +, \cdot)$ の構造を拡張したものであることがわかる。

$(\mathbb{R}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{R}, +, \cdot)$ は、 $(\mathbb{Z}, +, \cdot)$ の構造を拡張したものであることがわかる。

$(\mathbb{R}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{R}, +, \cdot)$ は、 $(\mathbb{Z}, +, \cdot)$ の構造を拡張したものであることがわかる。

-
1. $(\mathbb{Z}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{Z}, +, \cdot)$ は、 $(\mathbb{N}, +, \cdot)$ の構造を拡張したものであることがわかる。
 2. $(\mathbb{R}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{R}, +, \cdot)$ は、 $(\mathbb{Z}, +, \cdot)$ の構造を拡張したものであることがわかる。
 3. $(\mathbb{R}, +, \cdot)$ の元 a, b に対して、 $(a + b)^2 = a^2 + 2ab + b^2$ であり、 $(ab)^2 = a^2b^2$ である。このことから、 $(\mathbb{R}, +, \cdot)$ は、 $(\mathbb{Z}, +, \cdot)$ の構造を拡張したものであることがわかる。

... \mathbb{D} ... (\dots) ... (\dots) ...

III. L... R... P...

... (\dots) ... (\dots) ... (\dots) ... (\dots) ...

... (\dots) ... (\dots) ... (\dots) ... (\dots) ...

... M ... L ... R ... (2010), ... 1 2.

... J ... L & ... H ... (2001), 3 32, 11.

... (\dots) ... L ... A ... P ... (2001, 200).

... D ... A ... F ... P ... L ... (\dots) ...

0. ... (\dots) ... A ... L ... H ... (2001, 200).

1. ... C ... R ... P ... P ... 0.

2. ... H ... R ... C ... P ... M ... (2011), ...

(2009) and (2010), respectively. The mean of the parameters of the two best models is presented in Table 1. The best model was the one with the lowest AIC value. The AIC values for the best model were 132.45 and 132.50 for the first and second lactations, respectively. The mean of the parameters of the best model is presented in Table 1. The mean of the parameters of the best model is presented in Table 1. The mean of the parameters of the best model is presented in Table 1.

1. γ_{100} γ_{100} γ_{100} γ_{100} γ_{100}

The parameters of the best model are presented in Table 1. The mean of the parameters of the best model is presented in Table 1. The mean of the parameters of the best model is presented in Table 1. The mean of the parameters of the best model is presented in Table 1.

2. ...
3. ... *P* ... 33 (200), 1 ... *E* & *G* ... *P* ... () (2011), 231 ... *D* ... (...), ... *E* ... (...), ... 101 1 ... *E* ... *D* ... *I* ... *L* ... *D* ... *B* ... (...) ... *U* ... (200) ... *J* ... *I* ... *L* ... *E* ... (... , 2013), ... *E* ... *J* ... (... , 2013). ... *P* ... *P* ... *D* ... (... , ... , ...) ... *L* ... *F* ... *L* ... *I* ... *E* ... *K* ... (... , ...) ... *U* ... (... , 1991). ... *D* ... : *P* ... *P* ... (... , ...) ... *U* ... (...)

... D ... $O P$... A ... (... (...
 ... (2010), ... 3.
 0. ... D ... (...),
 J ... R ... K , C ... (... , 201), ... 0, 2, 1. ...
 ... (... , ...)
 P ... 1 (3) (200), 11 - 23, 11).
 1. ... D ...

... .. 2.

100. ? A ... Q ... 103 (200),

$\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$ (
 $\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$),

110

$\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$

111

$\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$

110. $\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$, 302.

111. $\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$ *E* $\frac{1}{2}(\frac{1}{2} + \frac{1}{2}) = \frac{1}{2}$ *J*

112. ...D... K... ..
 L... & C... .. 2 (201...), 1-13.

113.