JIS

JAPANESE INDUSTRIAL STANDARD

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JIS Z 9041-3 : 1999

(ISO 11453 : 1996)

Statistical Interpretation of data — Part 3: Tests and confidence intervals relating to proportions

ICS 03.120.30

Descriptors : cusum charts, data, research work, estimation, verification, statistical quality control, statistical distribution, sampling equipment

Reference number : **JIS Z 9041-3 : 1999 (E)**

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

To conform with the International Standard, **ISO 11453**:1996 has been basically employed. **JIS Z 9041**:1999 consists of the following 4 parts under the title "Statistical interpretation of data".

Part 1: Statistical presentation of data

Part 2: Techniques of estimation and test relating to means and variances

Part 3: Tests and confidence intervals relating to proportions

Part 4: Power of tests relating to means and variances

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

Contents

Statistical interpretation of data Part 3: Tests and confidence intervals relating to proportions

Introduction This Japanese Industrial Standard has been prepared based on **ISO 11453**, *Statistical interpretation of data — Tests and confidence intervals relating to proportions* issued in 1996 as the first edition together with Technical Corrigendum 1:1999 without changing the technical contents.

Portions underlined with dots in this Standard show the matters not specified in the original International Standard.

1 Scope This Standard describes specific statistical methods for addressing the following questions.

a) Given a population of items from which a sample of n items has been drawn, x of the sample items are found to show a specified characteristic. What proportion of the population has that characteristic ? (See A forms, **8.1**.)

b) Is the proportion estimated in **a**) different from a nominal (specified) value ? (See B forms, **8.2**.)

c) Given two distinct populations, are the proportions with the characteristic in the two populations different ? (See C forms, **8.3**.)

d) In **b**) and **c**) how many items must be sampled in the population(s) to be sufficiently sure that the result of the test is correct ? (See **7.2.3** and **7.2.4**)

It is essential that the drawing of samples does not have any appreciable effect on the population. If the sample drawn at random is less than 10 % of the population this is usually satisfactory, but if the sample is greater than this, reliable results can be obtained only by replacing each item sampled before drawing the next item at random from the population.

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of coming into effect is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision and amendment made thereafter are not applied. The normative references without the indication of the year of coming into effect apply limiting only to the most recent edition (including the amendment).

JIS Z 8101-1 *Statistics — Vocabulary and symbols — Part 1: Probability and general statistical terms*

Remarks: The provisions cited from **ISO 3534-1:1993** *Statistics — Vocabulary and symbols — Part 1: Probability and general statistical terms* are equivalent to the corresponding provisions in the said standard.

JIS Z 8101-2 *Statistics — Vocabulary and symbols — Part 2: Statistical quality control terms*

Remarks: The provisions cited from **ISO 3534-2**:1993 *Statistics — Vocabulary and symbols — Part 2: Statistical quality control terms* are equivalent to the corresponding provisions in the said standard.