# R4\_全国学力・学習状況調査の平均値差検定

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#

# 小6国語

zenkoku\_EL\_Jpn　<- c(1.0, 1.1, 1.8, 2.7, 3.6, 4.8, 6.0, 7.3, 8.7, 10.2, 11.6, 12.8, 12.9, 10.5, 5.0)

akita\_EL\_Jpn 　<- c(0.2, 0.4, 1.0, 1.7, 2.2, 3.5, 4.9, 6.2, 8.4, 10.1, 11.8, 13.9, 15.8, 13.0, 6.9)

okinawa\_EL\_Jpn　<- c(0.6, 1.2, 2.2, 3.4, 4.6, 6.0, 7.1, 8.6, 9.6, 10.3, 11.3, 12.4, 10.9, 8.1, 4.0)

ks.test (zenkoku\_EL\_Jpn, akita\_EL\_Jpn) #全国と秋田分布の同等性

ks.test (zenkoku\_EL\_Jpn, okinawa\_EL\_Jpn) #全国と沖縄分布の同等性

ks.test (okinawa\_EL\_Jpn, akita\_EL\_Jpn) #沖縄と秋田分布の同等性

# 小6算数

zenkoku\_EL\_Math <- c(0.5, 1.0, 1.7, 2.5, 3.2, 4.0, 4.9, 5.9, 7.0, 8.1, 9.3, 10.4, 11.3, 11.4, 9.9, 6.4, 2.5)

ishikawa\_EL\_Math <- c(0.2, 0.5, 0.9, 1.7, 2.1, 2.5, 3.5, 4.7, 5.9, 6.9, 8.5, 10.7, 12.7, 14.3, 12.7, 9.5, 2.9)

okinawa\_EL\_Math <- c(0.3, 1.2, 2.1, 3.5, 4.5, 5.0, 5.8, 7.0, 7.9, 8.6, 9.1, 9.8, 10.6, 9.4, 8.1, 5.3, 1.7)

ks.test (zenkoku\_EL\_Math, ishikawa\_EL\_Math) #全国と石川分布の同等性

ks.test (zenkoku\_EL\_Math, okinawa\_EL\_Math) #全国と沖縄分布の同等性

ks.test (okinawa\_EL\_Math, ishikawa\_EL\_Math) #沖縄と石川分布の同等性

# 中3国語

zenkoku\_JH\_Jpn <- c(0.3, 0.7, 1.3, 1.8, 2.6, 3.5, 4.8, 6.3, 8.3, 10.7, 13.2, 15.3, 15.5, 11.4, 4.2)

ishikawa\_JH\_Jpn <- c(0.2, 0.5, 0.9, 1.3, 1.8, 2.6, 3.2, 4.8, 7.2, 9.2, 12.0, 16.1, 17.6, 15.7, 6.9)

okinawa\_JH\_Jpn <- c(0.7, 1.4, 2.4, 3.0, 3.6, 4.5, 5.7, 7.2, 9.2, 10.7, 13.1, 14.3, 13.3, 8.3, 2.5)

ks.test (zenkoku\_JH\_Jpn, ishikawa\_JH\_Jpn) #全国と秋田分布の同等性

ks.test (zenkoku\_JH\_Jpn, okinawa\_JH\_Jpn) #全国と沖縄分布の同等性

ks.test (okinawa\_JH\_Jpn, ishikawa\_JH\_Jpn) #沖縄と秋田分布の同等性

# 中3数学

zenkoku\_JH\_Math <- c(2.2, 4.6, 5.8, 6.4, 7.0, 7.7, 8.3, 8.8, 9.2, 9.4, 9.1, 8.4, 6.8, 4.5, 1.7)

ishikawa\_JH\_Math <- c(1.4, 3.2, 4.3, 5.0, 5.6, 7.0, 7.7, 10.0, 10.2, 10.4, 10.6, 10.1, 6.9, 2.3)

okinawa\_JH\_Math <- c(3.6, 8.0, 8.5, 9.4, 9.3, 8.5, 8.8, 9.0, 8.7, 7.6, 6.5, 5.1, 3.6, 2.0, 0.6)

ks.test (zenkoku\_JH\_Math, ishikawa\_JH\_Math) #全国と石川分布の同等性

ks.test (zenkoku\_JH\_Math, okinawa\_JH\_Math) #全国と沖縄分布の同等性

ks.test (okinawa\_JH\_Math, ishikawa\_JH\_Math) #沖縄と石川分布の同等性

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# 計算結果のコピー

> zenkoku\_EL\_Jpn<- c(1.0, 1.1, 1.8, 2.7, 3.6, 4.8, 6.0, 7.3, 8.7, 10.2, 11.6, 12.8, 12.9, 10.5, 5.0)

> akita\_EL\_Jpn <- c(0.2, 0.4, 1.0, 1.7, 2.2, 3.5, 4.9, 6.2, 8.4, 10.1, 11.8, 13.9, 15.8, 13.0, 6.9)

> okinawa\_EL\_Jpn<- c(0.6, 1.2, 2.2, 3.4, 4.6, 6.0, 7.1, 8.6, 9.6, 10.3, 11.3, 12.4, 10.9, 8.1, 4.0)

>

> ks.test (zenkoku\_EL\_Jpn, akita\_EL\_Jpn) #全国と秋田分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_EL\_Jpn and akita\_EL\_Jpn

D = 0.2, p-value = 0.9315

alternative hypothesis: two-sided

> ks.test (zenkoku\_EL\_Jpn, okinawa\_EL\_Jpn) #全国と沖縄分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_EL\_Jpn and okinawa\_EL\_Jpn

D = 0.13333, p-value = 0.9997

alternative hypothesis: two-sided

> ks.test (okinawa\_EL\_Jpn, akita\_EL\_Jpn) #沖縄と秋田分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: okinawa\_EL\_Jpn and akita\_EL\_Jpn

D = 0.2, p-value = 0.9315

alternative hypothesis: two-sided

> # 小6算数

>

> zenkoku\_EL\_Math <- c(0.5, 1.0, 1.7, 2.5, 3.2, 4.0, 4.9, 5.9, 7.0, 8.1, 9.3, 10.4, 11.3, 11.4, 9.9, 6.4, 2.5)

> ishikawa\_EL\_Math <- c(0.2, 0.5, 0.9, 1.7, 2.1, 2.5, 3.5, 4.7, 5.9, 6.9, 8.5, 10.7, 12.7, 14.3, 12.7, 9.5, 2.9)

> okinawa\_EL\_Math <- c(0.3, 1.2, 2.1, 3.5, 4.5, 5.0, 5.8, 7.0, 7.9, 8.6, 9.1, 9.8, 10.6, 9.4, 8.1, 5.3, 1.7)

>

> ks.test (zenkoku\_EL\_Math, ishikawa\_EL\_Math) #全国と石川分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_EL\_Math and ishikawa\_EL\_Math

D = 0.17647, p-value = 0.959

alternative hypothesis: two-sided

> ks.test (zenkoku\_EL\_Math, okinawa\_EL\_Math) #全国と沖縄分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_EL\_Math and okinawa\_EL\_Math

D = 0.17647, p-value = 0.9545

alternative hypothesis: two-sided

> ks.test (okinawa\_EL\_Math, ishikawa\_EL\_Math) #沖縄と石川分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: okinawa\_EL\_Math and ishikawa\_EL\_Math

D = 0.23529, p-value = 0.7141

alternative hypothesis: two-sided

> # 中3国語

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> zenkoku\_JH\_Jpn <- c(0.3, 0.7, 1.3, 1.8, 2.6, 3.5, 4.8, 6.3, 8.3, 10.7, 13.2, 15.3, 15.5, 11.4, 4.2)

> ishikawa\_JH\_Jpn <- c(0.2, 0.5, 0.9, 1.3, 1.8, 2.6, 3.2, 4.8, 7.2, 9.2, 12.0, 16.1, 17.6, 15.7, 6.9)

> okinawa\_JH\_Jpn <- c(0.7, 1.4, 2.4, 3.0, 3.6, 4.5, 5.7, 7.2, 9.2, 10.7, 13.1, 14.3, 13.3, 8.3, 2.5)

>

> ks.test (zenkoku\_JH\_Jpn, ishikawa\_JH\_Jpn) #全国と秋田分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_JH\_Jpn and ishikawa\_JH\_Jpn

D = 0.2, p-value = 0.9315

alternative hypothesis: two-sided

> ks.test (zenkoku\_JH\_Jpn, okinawa\_JH\_Jpn) #全国と沖縄分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_JH\_Jpn and okinawa\_JH\_Jpn

D = 0.13333, p-value = 0.9995

alternative hypothesis: two-sided

> ks.test (okinawa\_JH\_Jpn, ishikawa\_JH\_Jpn) #沖縄と秋田分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: okinawa\_JH\_Jpn and ishikawa\_JH\_Jpn

D = 0.2, p-value = 0.9315

alternative hypothesis: two-sided

>

>

> # 中3数学

>

> zenkoku\_JH\_Math <- c(2.2, 4.6, 5.8, 6.4, 7.0, 7.7, 8.3, 8.8, 9.2, 9.4, 9.1, 8.4, 6.8, 4.5, 1.7)

> ishikawa\_JH\_Math <- c(1.4, 3.2, 4.3, 5.0, 5.6, 7.0, 7.7, 10.0, 10.2, 10.4, 10.6, 10.1, 6.9, 2.3)

> okinawa\_JH\_Math <- c(3.6, 8.0, 8.5, 9.4, 9.3, 8.5, 8.8, 9.0, 8.7, 7.6, 6.5, 5.1, 3.6, 2.0, 0.6)

>

> ks.test (zenkoku\_JH\_Math, ishikawa\_JH\_Math) #全国と石川分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_JH\_Math and ishikawa\_JH\_Math

D = 0.35714, p-value = 0.2458

alternative hypothesis: two-sided

> ks.test (zenkoku\_JH\_Math, okinawa\_JH\_Math) #全国と沖縄分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: zenkoku\_JH\_Math and okinawa\_JH\_Math

D = 0.2, p-value = 0.9239

alternative hypothesis: two-sided

> ks.test (okinawa\_JH\_Math, ishikawa\_JH\_Math) #沖縄と石川分布の同等性

 Exact two-sample Kolmogorov-Smirnov test

data: okinawa\_JH\_Math and ishikawa\_JH\_Math

D = 0.35714, p-value = 0.2496

alternative hypothesis: two-sided