

Shapiro-Wilk Test Calculator

*The maximum sample size is [5000](#)

Name:

Arsenic

Significance level (α):

0.05

Outliers:

Rounding:

Included

2

Data:

4.19, 3.9, 4.23, 4.66, 5.05, 5.18, 5.34, 4.59, 4.83, 4.56, 6.05, 6.19, 5.4, 4.83, 6.25

Calculate



Clear

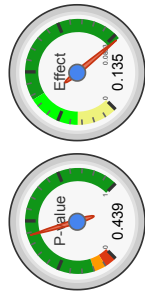
Load last run

Shapiro-Wilk Test Calculator

Reporting Shapiro-Wilk test in APA Format

The Shapiro-Wilk test did not show a significant departure from normality, $W(15) = .94, p = .439$

Parameter	Value
P-value	0.44
W	0.94
Sample size (n)	15
Average (\bar{x})	5.02
Median	4.83
Sample Standard Deviation (S)	0.73
Sum of Squares	7.38
b	2.64
Skewness	0.43
Skewness Shape	 Potentially Symmetrical (pval=0.455)
Excess kurtosis	-0.65
Kurtosis Shape	 Potentially Mesokurtic , normal like tails (pval=0.56)
Outliers	



Shapiro-Wilk-test, using tables as distribution (right-tailed)

Since $n \leq 50$ we used the Shapiro-Wilk tables to calculate the p-value.
The normal distribution chart is only for visualization.

1. H₀ hypothesis

Since $p\text{-value} > \alpha$, we accept the H₀.
It is assumed that the data is normally distributed.

In other words, the difference between the data sample and the normal distribution is not big enough to be statistically significant. A non-significance result can not prove that H₀ is correct, only that the null assumption can not be rejected.

2. P-value

The p-value equals **0.44**, ($P(X \leq 0.15) = 0.56$). It means that the chance of type I error, rejecting a correct H₀, is too high: 0.4386 (43.86%). The larger the p-value the more it supports H₀.

3. Test statistic

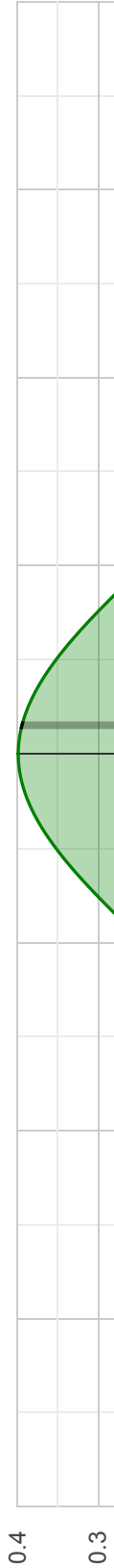
The test statistic **W** equals **0.94**, which is in the 95% region of acceptance: [0.88, 1].

4. Effect size

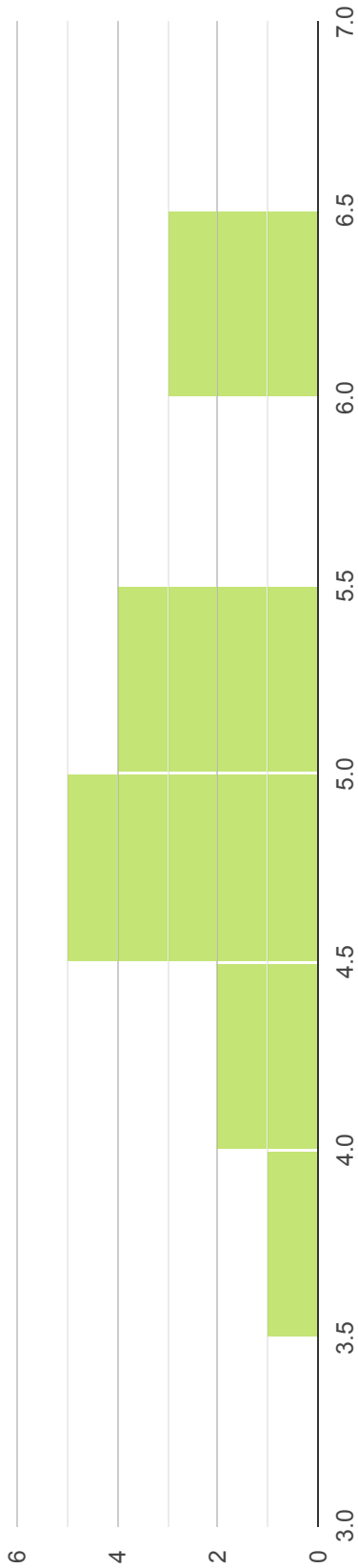
The observed effect size **KS - D** is **very small, 0.13**. This indicates that the magnitude of the difference between the sample distribution and the normal distributions is very small.

Since the null assumption cannot be rejected, you may ignore the effect size.

Distribution: Normal(mean:0, std:1)



Histogram



Q-Q Plot

