

# What is the F-Test for Equal Variances Calculator used for?

Authored by  
**stats writer**

July 1, 2024

## RECOMMENDED CITATION

stats writer (2024). *What is the F-Test for Equal Variances Calculator used for?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=165080>

The F-Test for Equal Variances Calculator is a statistical tool used to determine if two sets of data have equal variances. This calculator utilizes the F-test, a commonly used hypothesis test, to compare the variances of two samples. It is often used in research and data analysis to determine the appropriate statistical tests to use, as unequal variances can affect the accuracy and validity of results. This calculator provides a quick and efficient way to perform the F-test and make informed decisions about statistical analyses. It is particularly useful in fields such as economics, biology, and social sciences.

## F-Test for Equal Variances Calculator

```
@import
url('https://fonts.googleapis.com/css?family=Droid+Serif|Raleway');

h1 {
text-align: center;
font-size: 50px;
margin-bottom: 0px;
font-family: 'Raleway', serif;
}

p {
color: black;
margin-bottom: 15px;
margin-top: 15px;
font-family: 'Raleway', sans-serif;
}
```

```
#words {  
padding-left: 30px;  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#words_summary {  
padding-left: 70px;  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#words_text {  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;
```

```
}
```

```
#words_text_area {  
display:inline-block;  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
padding-left: 100px;  
}
```

```
#calcTitle {  
text-align: center;  
font-size: 20px;  
margin-bottom: 0px;  
font-family: 'Raleway', serif;  
}
```

```
#hr_top {  
width: 30%;  
margin-bottom: 0px;  
border: none;  
height: 2px;  
color: black;
```

```
background-color: black;  
}
```

```
#hr_bottom {  
width: 30%;  
margin-top: 15px;  
border: none;  
height: 2px;  
color: black;  
background-color: black;  
}
```

```
#words label, input {  
display: inline-block;  
vertical-align: baseline;  
width: 350px;  
}
```

```
#button {  
border: 1px solid;  
border-radius: 10px;  
margin-top: 20px;  
  
cursor: pointer;  
outline: none;
```

```
background-color: white;  
color: black;  
font-family: 'Work Sans', sans-serif;  
border: 1px solid grey;  
/* Green */  
}
```

```
#button:hover {  
background-color: #f6f6f6;  
border: 1px solid black;  
}
```

```
#words_table {  
color: black;  
font-family: Raleway;  
max-width: 350px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#summary_table {  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;
```

```
line-height: 1.75;  
padding-left: 20px;  
}
```

```
.label_radio {  
text-align: center;  
}
```

```
td, tr, th {  
border: 1px solid black;  
}
```

```
table {  
border-collapse: collapse;  
}
```

```
td, th {  
min-width: 50px;  
height: 21px;  
}
```

```
.label_radio {  
text-align: center;  
}
```

```
#text_area_input {  
padding-left: 35%;  
float: left;
```

```
}
```

```
svg:not(:root) {  
overflow: visible;  
}
```

An F-test is used to test whether two population variances are equal..

To perform an F-test for two samples, simply enter a list of values for each sample in the boxes below, then click the "Calculate" button:

Sample 1:

Sample 2:

F-Value: 1.77011

P-Value: 0.35774

```
function calc() {
```

```
//get input data
```

```
var x =  
document.getElementById('x').value.split(',').map(Numb  
er);
```

```
var y = document.getElementById('y').value.split(',').map(Number);

var var1 = Math.pow(math.std(x), 2)
var var2 = Math.pow(math.std(y), 2)
var n1 = x.length-1;
var n2 = y.length-1;

var f = Math.max(var1,var2) / Math.min(var1,var2);
var p = (1-jStat.centralF.cdf(f, Math.max(n1,n2), Math.min(n1,n2)))*2

document.getElementById('f').innerHTML = f.toFixed(5);
document.getElementById('p').innerHTML = p.toFixed(5);

} //end calc function
```