

# Exercícios Teste t

Resultados

# Exercício Transgênicos – Programa SAS e resultado

```

DATA A0;
INPUT TRAT $ CRESC_MM;
DATALINES;
TRAN      12
TRAN      11
TRAN       9
TRAN       8
TRAN      14
TRAN      12
TRAN      12
TRAN      11
TRAN      10
TRAN       9
CONV       9
CONV       5
CONV       7
CONV      12
CONV       7
CONV      10
CONV       9
CONV      12
CONV       6
CONV       4
;;;
ODS GRAPHICS ON;
PROC TTEST DATA=A0;
CLASS TRAT;
VAR CRESC_MM;
RUN;
PROC UNIVARIATE DATA=A0 NORMAL;
VAR CRESC_MM;
HISTOGRAM;
RUN;
ODS GRAPHICS OFF;

```

| TRAT       | N  | Mean    | Std Dev | Std Err | Minimum | Maximum |
|------------|----|---------|---------|---------|---------|---------|
| CONV       | 10 | 8.1000  | 2.7669  | 0.8750  | 4.0000  | 12.0000 |
| TRAN       | 10 | 10.8000 | 1.8135  | 0.5735  | 8.0000  | 14.0000 |
| Diff (1-2) |    | -2.7000 | 2.3393  | 1.0462  |         |         |

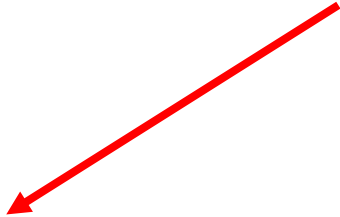
| TRAT       | Method        | Mean    | 95% CL Mean |         | Std Dev | 95% CL Std Dev |        |
|------------|---------------|---------|-------------|---------|---------|----------------|--------|
| CONV       |               | 8.1000  | 6.1207      | 10.0793 | 2.7669  | 1.9031         | 5.0512 |
| TRAN       |               | 10.8000 | 9.5027      | 12.0973 | 1.8135  | 1.2474         | 3.3108 |
| Diff (1-2) | Pooled        | -2.7000 | -4.8979     | -0.5021 | 2.3393  | 1.7676         | 3.4594 |
| Diff (1-2) | Satterthwaite | -2.7000 | -4.9232     | -0.4768 |         |                |        |

| Method        | Variances | DF     | t Value | Pr >  t |
|---------------|-----------|--------|---------|---------|
| Pooled        | Equal     | 18     | -2.58   | 0.0188  |
| Satterthwaite | Unequal   | 15.528 | -2.58   | 0.0205  |

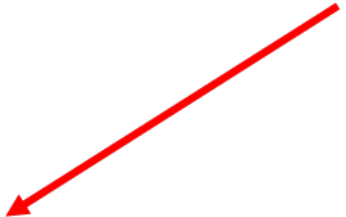
| Equality of Variances |        |        |         |        |
|-----------------------|--------|--------|---------|--------|
| Method                | Num DF | Den DF | F Value | Pr > F |
| Folded F              | 9      | 9      | 2.33    | 0.2242 |

# Normalidade

| Tests for Normality |           |          |           |         |
|---------------------|-----------|----------|-----------|---------|
| Test                | Statistic |          | p Value   |         |
| Shapiro-Wilk        | W         | 0.953044 | Pr < W    | 0.4157  |
| Kolmogorov-Smirnov  | D         | 0.132957 | Pr > D    | >0.1500 |
| Cramer-von Mises    | W-Sq      | 0.064715 | Pr > W-Sq | >0.2500 |
| Anderson-Darling    | A-Sq      | 0.409254 | Pr > A-Sq | >0.2500 |



| Moments         |            |                  |            |
|-----------------|------------|------------------|------------|
| N               | 20         | Sum Weights      | 20         |
| Mean            | 9.45       | Sum Observations | 189        |
| Std Deviation   | 2.66507628 | Variance         | 7.10263158 |
| Skewness        | -0.4294429 | Kurtosis         | -0.4684515 |
| Uncorrected SS  | 1921       | Corrected SS     | 134.95     |
| Coeff Variation | 28.2018654 | Std Error Mean   | 0.59592917 |



# Exercício Pressão Sistólica

```

DATA A0;
INPUT INDIV ANTES DEPOIS;
DIF=ANTES-DEPOIS;
DATALINES;
1      122      136
2      130      141
3      125      136
4      136      141
5      110      131
6      118      130
7      133      140
8      124      130
9      141      146
1     129      139
11     122      131
12     126      139
;;;
ODS GRAPHICS ON;
PROC MEANS DATA=A0 MAXDEC=2;
VAR ANTES DEPOIS;
RUN;
PROC UNIVARIATE DATA=A0 NORMAL;
VAR DIF;
HISTOGRAM;
RUN;
ODS GRAPHICS OFF;

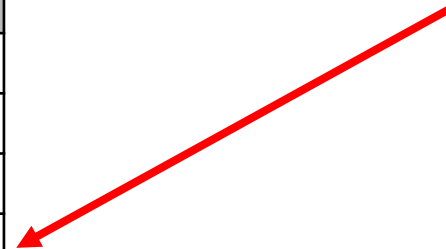
```

| Variable | N  | Mean   | Std Dev | Minimum | Maximum |
|----------|----|--------|---------|---------|---------|
| ANTES    | 12 | 126.33 | 8.28    | 110.00  | 141.00  |
| DEPOIS   | 12 | 136.67 | 5.23    | 130.00  | 146.00  |

| Tests for Normality |           |          |           |         |
|---------------------|-----------|----------|-----------|---------|
| Test                | Statistic |          | p Value   |         |
| Shapiro-Wilk        | W         | 0.915258 | Pr < W    | 0.2490  |
| Kolmogorov-Smirnov  | D         | 0.126286 | Pr > D    | >0.1500 |
| Cramer-von Mises    | W-Sq      | 0.040536 | Pr > W-Sq | >0.2500 |
| Anderson-Darling    | A-Sq      | 0.345968 | Pr > A-Sq | >0.2500 |

Cont.

| Moments         |            |                  |            |
|-----------------|------------|------------------|------------|
| N               | 12         | Sum Weights      | 12         |
| Mean            | -10.333333 | Sum Observations | -124       |
| Std Deviation   | 4.53938989 | Variance         | 20.6060606 |
| Skewness        | -1.0063545 | Kurtosis         | 1.63801038 |
| Uncorrected SS  | 1508       | Corrected SS     | 226.666667 |
| Coeff Variation | -43.92958  | Std Error Mean   | 1.31040899 |



| Tests for Location: Mu0=0 |           |          |          |        |
|---------------------------|-----------|----------|----------|--------|
| Test                      | Statistic |          | p Value  |        |
| Student's t               | t         | -7.88558 | Pr >  t  | <.0001 |
| Sign                      | M         | -6       | Pr >=  M | 0.0005 |
| Signed Rank               | S         | -39      | Pr >=  S | 0.0005 |

