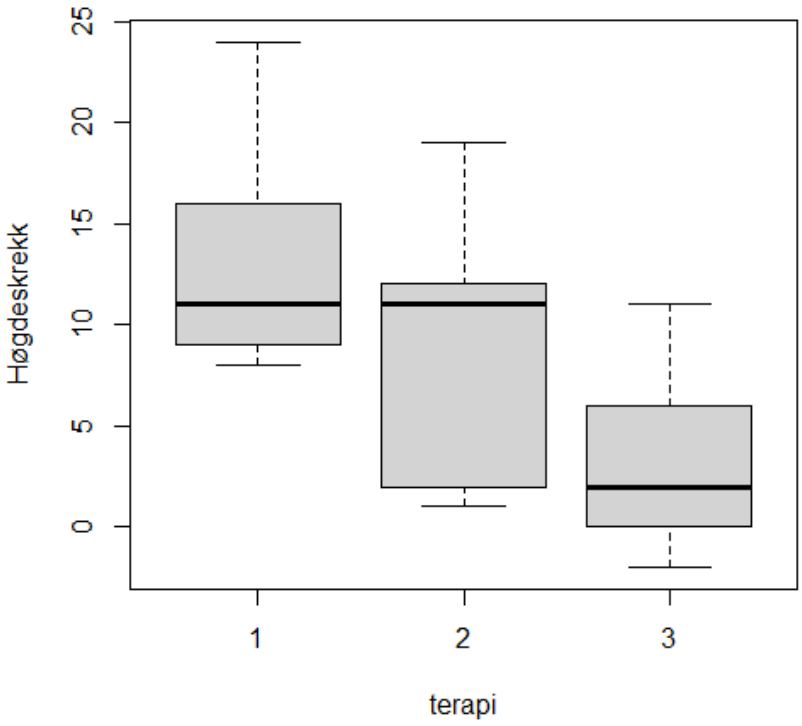
	Høgdeskrekk terapi			
Blokk	Desensibilisering	Demonstrering	Levande modellering	$\bar{Y}_{i.}$
A	8	2	-2	2.67
B	11	1	0	4.00
C	9	12	6	9.00
D	16	11	2	9.67
E	24	19	11	18.00
$\bar{Y}_{.j}$	13.6	9	3.4	8.67

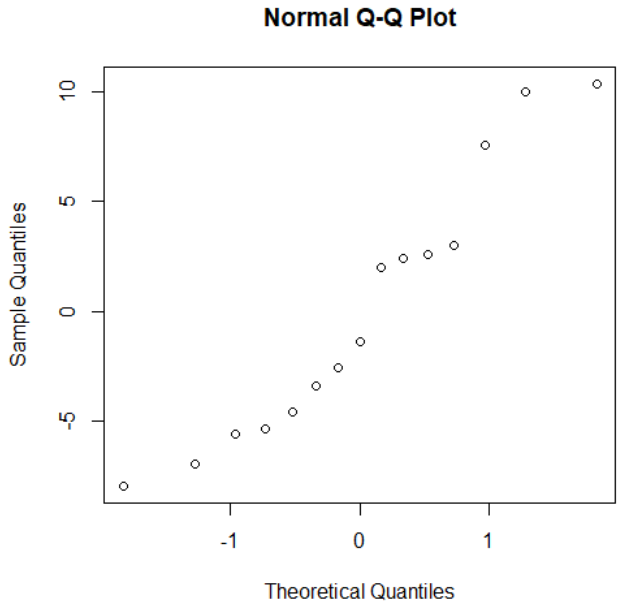
```
> Høgdes=c(8,11,9,16,24,2,1,12,11,19,-2,0,6,2,11)
> blokk=c(1,2,3,4,5,1,2,3,4,5,1,2,3,4,5)
> terapi=c(1,1,1,1,1,2,2,2,2,2,3,3,3,3,3)

> plot(as.factor(terapi), Høgdes, xlab="terapi", ylab="Høgdeskrekk")
```

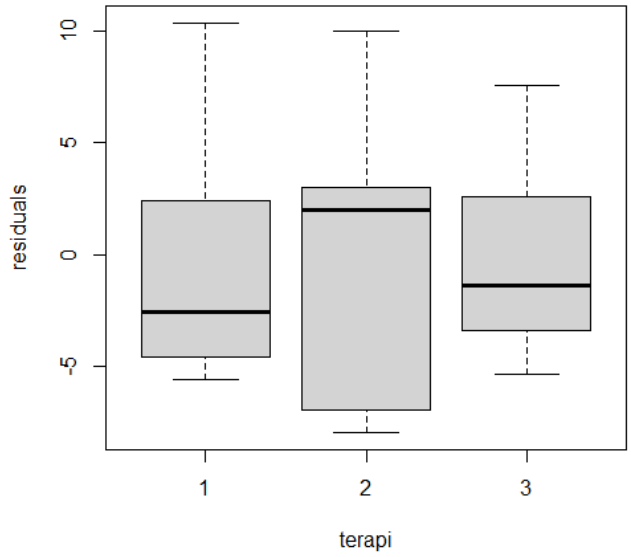


```
> mod1=aov(Høgdes~as.factor(terapi))
> summary(mod1)
                Df Sum Sq Mean Sq F value Pr(>F)
as.factor(terapi)  2  260.9   130.5   3.092 0.0826 .
Residuals          12  506.4    42.2
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
qqnorm(mod1$residuals)
```

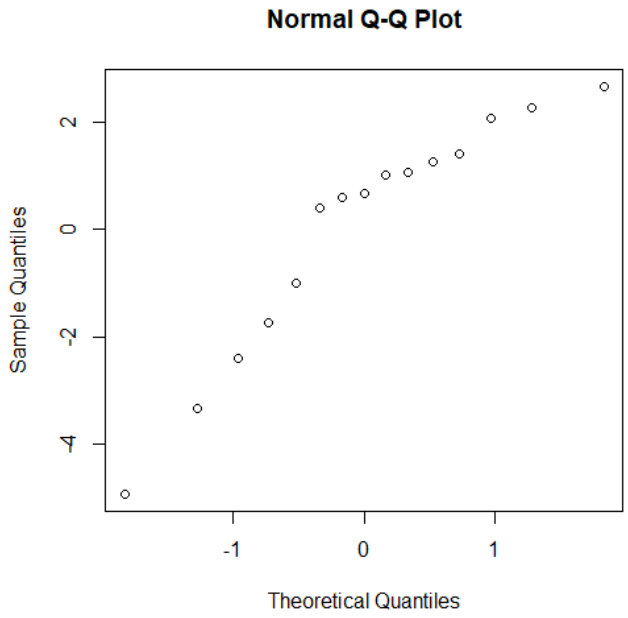



```
> plot(as.factor(terapi), mod1$residuals)
```

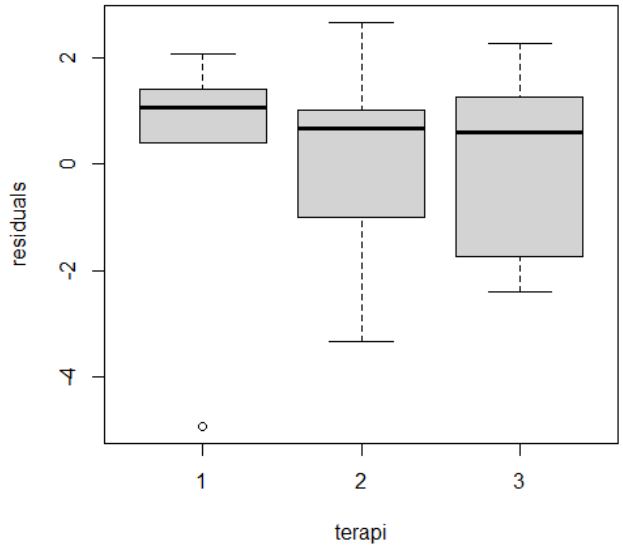


```
> mod2=aov(Høgdes~as.factor(terapi)+as.factor(blokk))
> summary(mod2)
                Df Sum Sq Mean Sq F value  Pr(>F)
as.factor(terapi)  2  260.9  130.47   15.26 0.00186 **
as.factor(blokk)   4  438.0  109.50   12.81 0.00148 **
Residuals          8   68.4    8.55
```

```
> qqnorm(mod2$residuals)
```




```
> plot(as.factor(terapi), mod2$residuals, xlab="terapi", ylab="residuals")
```



```
> TukeyHSD(aov(Høgdes~as.factor(terapi)+as.factor(blokk)))

Tukey multiple comparisons of means
   95% family-wise confidence level
Fit: aov(formula = Høgdes ~ as.factor(terapi) + as.factor(blokk))

$`as.factor(terapi)`
    diff         lwr          upr          p adj
2-1  -4.6  -9.884341    0.6843409 0.0861689
3-1 -10.2 -15.484341 -4.9156591 0.0014388
3-2  -5.6 -10.884341  -0.3156591 0.0389288

$`as.factor(blokk)`
        diff       lwr      upr     p adj
2-1  1.3333333 -6.91476915  9.581436 0.9776778
3-1  6.3333333 -1.91476915 14.581436 0.1492393
4-1  7.0000000 -1.24810248 15.248102 0.1021575
5-1 15.3333333  7.08523085 23.581436 0.0013750
3-2  5.0000000 -3.24810248 13.248102 0.3078102
4-2  5.6666667 -2.58143582 13.914769 0.2161064
5-2 14.0000000  5.75189752 22.248102 0.0025034
4-3  0.6666667 -7.58143582  8.914769 0.9983688
5-3  9.0000000  0.75189752 17.248102 0.0326787
5-4 8.3333333  0.08523085 16.581436 0.0476318
```

Partesten

Person	Hemog før tur	Hemog etter tur	Forskjell
A	14,6	13,8	0,8
B	17,3	15,4	1,9
C	10,9	11,3	-0,4
D	12,8	11,6	1,2
E	16,6	16,4	0,2
F	12,2	12,6	-0,4
G	11,2	11,8	-0,6
H	15,4	15,0	0,4
I	14,8	14,4	0,4
J	16,2	15,0	1,2

```
>hemo=c(14.6,17.3,10.9,12.8,16.6,12.2,11.2,15.4,14.8,16.2,13.8,15.4,11.3,11.6
,16.4,12.6,11.8,15.0,14.4,15.0)
> tur=c(1,1,1,1,1,1,1,1,1,1,2,2,2,2,2,2,2,2,2,2)
> blokk=c(1,2,3,4,5,6,7,8,9,10,1,2,3,4,5,6,7,8,9,10)

> mod1=aov(hemo~as.factor(tur)+as.factor(blokk))
> summary(mod1)
                  Df  Sum Sq Mean Sq F value   Pr(>F)
as.factor(tur)     1    1.10   1.104     3.335   0.101
as.factor(blokk) 9  73.24   8.138    24.573   2.73e-05 ***
Residuals          9   2.98    0.331
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Frå læreboka er $T_{obs} = \frac{\bar{d}}{\frac{s_D}{\sqrt{10}}} = \frac{0,47}{\frac{\sqrt{0,662}}{\sqrt{10}}} = 1,827 \frac{0,47}{\frac{\sqrt{0,662}}{\sqrt{10}}} = 1,827$