Solutions to Exercises from Chapter 10

1.1-. `choose()`.

1.2-. The instruction `sum(1:n)`.

1.3-. `range()`.

1.4-. The term by term product of the two following matrices:

```
     [,1] [,2]
[1,]    1    0
[2,]    0    1
```

and

```
     [,1] [,2]
[1,]    1    3
[2,]    2    4
```

which gives

```
     [,1] [,2]
[1,]    1    0
[2,]    0    4
```

1.5-. `%*%()`.

1.6-. Function `solve()` for the inverse and function `t()` for the transpose.

1.7-. The instruction `diag(5)`.

1.8-. Command `det()` for the determinant and `sum(diag())` for the trace.

1.9-. `scale(A)`.

1.10-. Function `eigen()`.

1.11-.
```
myf <- function(x) {3*x^2+2}
integrate(myf,lower=-1,upper=1)
```

1.12-.
```
optimize(f=function(x)(sin(x))**2,lower=0,upper=2,maximum=TRUE)
```

1.13-. Command `uniroot()` for a function and `polyroot()` for a polynomial.