Lösungen / Statistik 1/04

```
Remove["Global`*"]
```

1.

Selbststudium nach Uebungen.

2.

```
n = 50; d = 6; a = 3; b = 2; ab = 1; a1 = a + ab; b1 = b + ab;
aUb = a1 + b1 - ab
```

```
6
```

```
cc = ab / n
```

$$\frac{1}{50}$$

```
p[ab] // N
```

```
p[1.]
```

```
p[aUb] = aUb / n
```

$$\frac{3}{25}$$

```
p[aUb] // N
```

```
0.12
```

3.

P(A|B)=P(AnB)/P(A)

```
p = 471 / (471 + 148)
```

$$\frac{471}{619}$$

```
p // N
```

```
0.760905
```

4.

```
v[k_, n_] := n! / (n - k)!;
vRep[k_, n_] := n^k;

p = v[3, 6] / vRep[3, 6]
```

$$\frac{5}{9}$$

```
N[p]
```

```
0.555556
```

5.

P_tot=P(1.o.k.)*P(2.o.k.)*P(3.o.k.)*P(4.o.k.)*P(5.o.k.)*

```
tot = 50; d = tot 20 / 100; oK = tot - d;

p = oK / tot * (oK - 1) / (tot - 1) * (oK - 2) / (tot - 2) *
   (oK - 3) / (tot - 3) * (oK - 4) / (tot - 4) * (oK - 5) / (tot - 5)
```

$$\frac{9139}{37835}$$

```
N[p]
```

```
0.241549
```

6.

a

```
tot = vRep[4, 2]
```

```
16
```

```
res2and2 = 4! / (2! * 2!)
```

```
6
```

```
p1 = res2and2 / tot
```

$$\frac{3}{8}$$

```
N[p1]
```

```
0.375
```

b

```
pKorF = 1 / 2; pZorP = 1 / 2;

p2 = pKorF pZorP pKorF pZorP
```

$$\frac{1}{16}$$

```
N[p2]
```

```
0.0625
```