Niklas Vest - A23

In[29]:=
```
Expected2[av_, rel_] := N[Total[av × rel / Total[rel]]]
```

In[30]:=
```
diePoss = {1, 2, 3, 4, 5, 6};
```

In[31]:=
```
diceSumPoss = {2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12};
diceSumRel = {1, 2, 3, 4, 5, 6, 5, 4, 3, 2, 1};
```

In[33]:=
```
diceProdPoss = {1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, 18, 20, 24, 25, 30, 36};
diceProdRel = {1, 2, 2, 3, 2, 4, 2, 1, 2, 4, 2, 1, 2, 2, 2, 1, 2, 1};
```

In[35]:=
```
Var[av_, rel_] := N[Expected2[av^2, rel] - Expected2[av, rel]^2]
dieRel = Table[1, {i, 0, 5}];
```

In[37]:=
```
xV = Var[diePoss, dieRel]
```

Out[37]= 2.91667

In[38]:=
```
dV = Var[diePoss × 2, dieRel]
```

Out[38]= 11.6667

In[39]:=
```
qV = Var[diePoss^2, dieRel]
```

Out[39]= 149.139

In[40]:=
```
bV = Var[7 - diePoss, dieRel]
```

Out[40]= 2.91667

In[41]:=
```
sV = Var[diceSumPoss, diceSumRel]
```

Out[41]= 5.83333

In[42]:=
```
pV = Var[diceProdPoss, diceProdRel]
```

Out[42]= 79.9653

In[43]:=
```
Var[2 × diePoss, dieRel] == 2 × Var[diePoss, dieRel](* [1] *)
```

Out[43]= False

In[44]:=
```
Var[diePoss^2, dieRel] == Var[diePoss, dieRel]^2
```

Out[44]= False

In[45]:=
```
Var[7 - diePoss, dieRel] == 7 - Var[diePoss, dieRel]
```

Out[45]= False

$V(X_1 + X_2)$ entspricht [1]

In[46]:=
```
Var[diePoss × diePoss, dieRel] == Var[diePoss, dieRel] × Expected2[diePoss, dieRel]
```

Out[46]= False