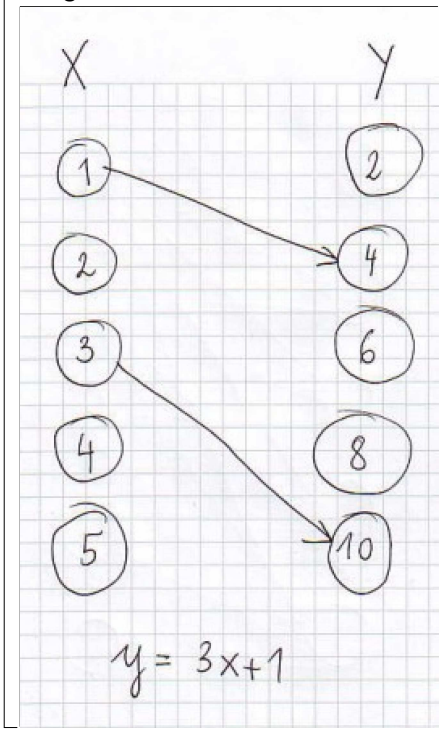
Funktionen

Dokumentnummer: DX1026
Fachgebiet: Relationen
Funktionen
eindeutige Zuordnungen
Produktmenge
Teilmenge

Einsatz: 2HAK (erstes Lernjahr)

1 Beispiel 1

Figure 1:



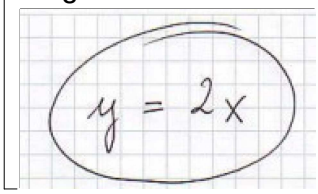

```
(%i1) A:{1,2,3,4,5};B:{2,4,6,8,10} /* diese Mengen werden auch
      für alle anderen Beispiele
                                                    verwendet */;
(%o1) {1,2,3,4,5}
(%o2) {2,4,6,8,10}
```

```
(%i3) S:cartesian_product(A,B);
(%o3) {[1,2],[1,4],[1,6],[1,8],[1,10],[2,2],[2,4],[2,6],[2,8],
[2,10],[3,2],[3,4],[3,6],[3,8],[3,10],[4,2],[4,4],[4,6],[4,8],
[4,10],[5,2],[5,4],[5,6],[5,8],[5,10]}
```

```
(%i4) F1:subset(S,lambda([e],is(e[2]=3*e[1]+1)));
(%o4) {[1,4],[3,10]}
```

2 Beispiel 2

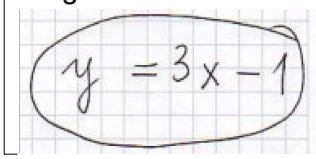
Figure 2:




```
(%i5) F2:subset(S,lambda([e],is(e[2]=2*e[1])));
(%o5) {[1,2],[2,4],[3,6],[4,8],[5,10]}
```

3 Beispiel 3

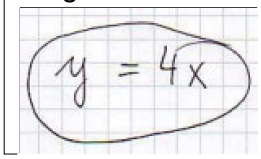
Figure 3:




```
(%i6) F3:subset(S,lambda([e],is(e[2]=3*e[1]-1)));
(%o6) {[1,2],[3,8]}
```

4 Beispiel 4

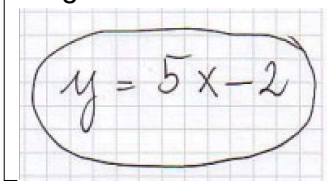
Figure 4:




```
(%i7) F4:subset(S,lambda([e],is(e[2]=4*e[1])));
(%o7) {[1,4],[2,8]}
```

5 Beispiel 5

Figure 5:




```
(%i8) F5:subset(S,lambda([e],is(e[2]=5*e[1]-2)));
(%o8) {[2,8]}
```