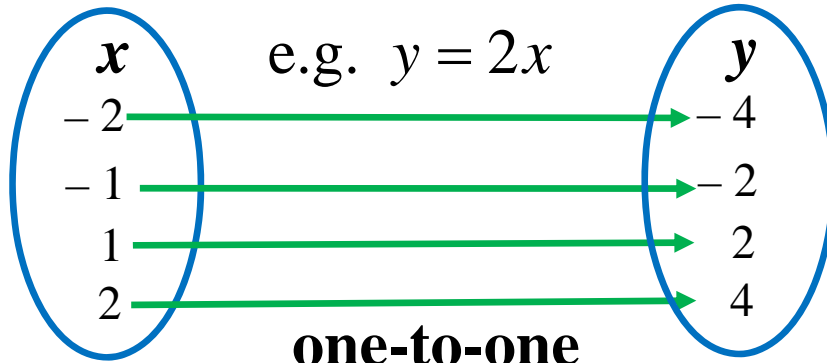


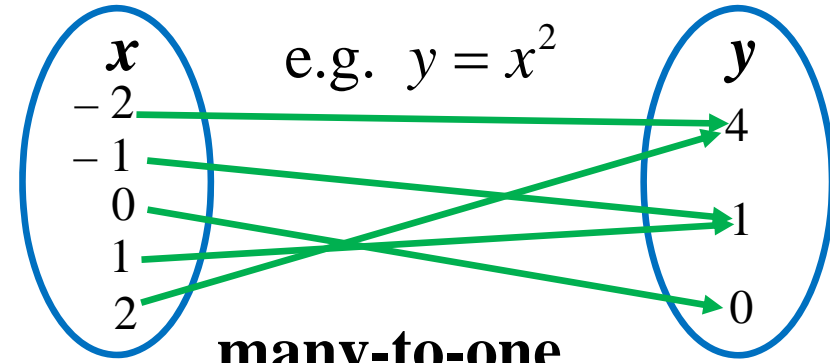
# Types of Relations

functions



**one-to-one**

*passes vertical & horizontal line tests*

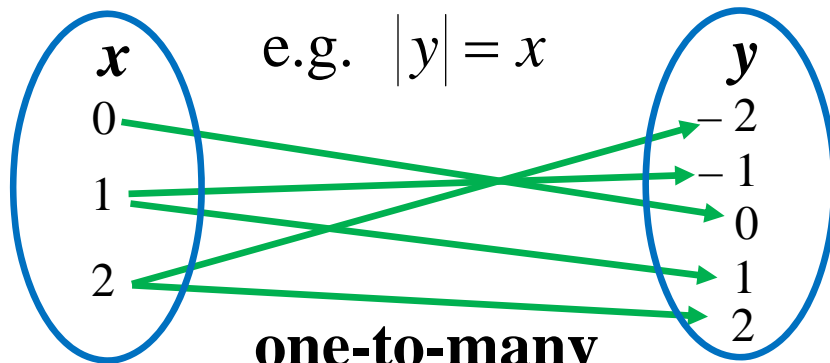


**many-to-one**

*passes vertical line test only*

(only one dependent variable needs to map from many independent variables)

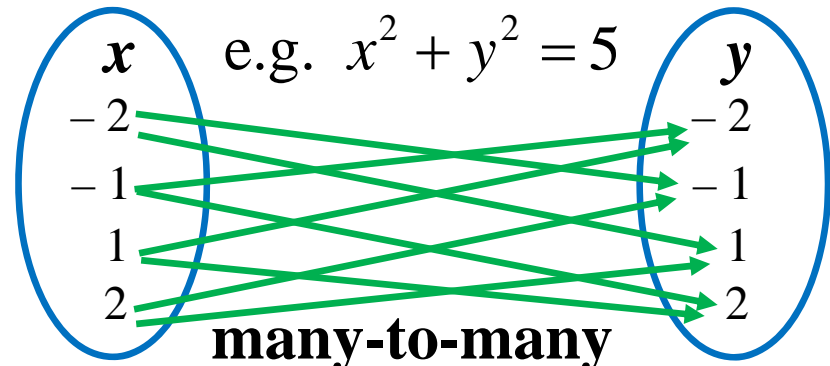
relations



**one-to-many**

*passes horizontal line test only*

(only one independent variable needs to map to many dependent variables)



**many-to-many**

*fails both tests*

(only one independent variable needs to map to many dependent variables and visa-versa)

**Exercise 3I; 3, 4, 6ab(i) & (iii),  
7a, 8, 9, 12acegik**