

### Exercise 3.1

In an econometric investigation, it is assumed that a certain phenomenon  $y$  can be described using a polynomial

$$ax^2 + bx$$

plus a random error. The following corresponding values of  $y$  and  $x$  have been observed

x	0	1	1	2
y	$\frac{1}{2}$	0	$-\frac{1}{2}$	-2

1. Estimate  $a$  and  $b$  and their respective errors.