Exercise 26

Table 3 gives the annual sales (in millions of dollars) of a product from 1998 to 2006. What was the average rate of change of annual sales (a) between 2001 and 2002, and (b) between 2001 and 2004?

Year	Sales (millions of dollars)
1998	201
1999	219
2000	233
2001	243
2002	249
2003	251
2004	249
2005	243
2006	233

Table 3

Solution

The average rate of change of annual sales between 2001 and 2002 is

$$\frac{f(2002) - f(2001)}{2002 - 2001} = \frac{249 - 243}{2002 - 2001}$$

$$= \frac{6}{1}$$

$$= 6,$$

and the average rate of change of annual sales between 2001 and 2004 is

$$\frac{f(2004) - f(2001)}{2004 - 2001} = \frac{249 - 243}{2004 - 2001}$$

$$= \frac{6}{3}$$

$$= 2.$$