

2.5 Average Rate of Change

Find the average rate of change for each function.

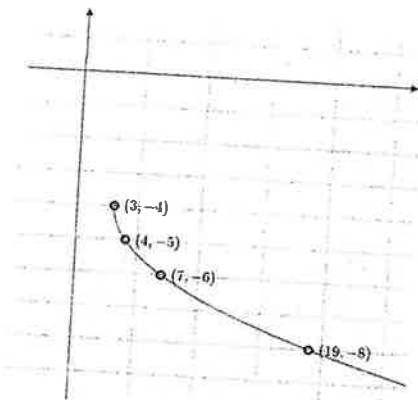
1. Find the average rate of change of the function over the interval $[32, 60]$.

$$f(x) = \sqrt{x+4} + 3$$

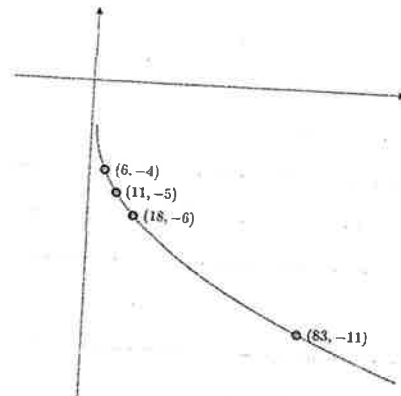
2. Find the average rate of change of the function over the interval $[2, 5]$.

$$f(x) = -4 \cdot 2^x + 3$$

3. Find the average rate of change between the $x = 3$ and $x = 19$.



4. Find the average rate of change between the $x = 6$ and $x = 11$.



5. Use the table below to find the average rate of change in the cost of a candy bar from 2001 to 2003.

Year	Cost
1952	33¢
1963	52¢
2001	55¢
2002	81¢
2003	94¢

cents per year

6. Ralph goes on a weight loss diet. Use the table below to find the average rate of change in his weight from week 6 to week 20.

Week	Weight
1	179 lbs
5	175 lbs
6	171 lbs
13	169 lbs
16	159 lbs
18	158 lbs
20	156 lbs

lbs per week

1. Find the average rate of change of the function over the interval $[-4, 5]$.

$$f(x) = -x^2 + x$$

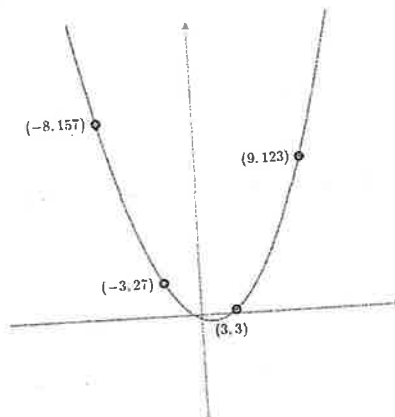
2. Find the average rate of change of the function over the interval $[0, 2]$.

$$f(x) = 2^x + 1$$

3. Find the average rate of change of the function over the interval $[2, 18]$.

$$f(x) = -2\sqrt{x-2} + 6$$

4. Find the average rate of change between the $x = -8$ and $x = -3$.



5. A function is given by the table below.

x	-3	-2	-1	0	1	2	3
$f(x)$	-10	5	24	47	74	105	140

Find the rate of change over the following domain intervals.

(a) $-3 \leq x \leq -1$

(b) $-2 \leq x \leq 1$

(c) $-1 \leq x \leq 3$

6. For the function $f(x) = -16x^2 + 24x - 3$, find the rate of change over the following domain intervals.

(a) $-6 \leq x \leq -2$

(b) $-3 \leq x \leq 0$

(c) $-1 \leq x < 1$