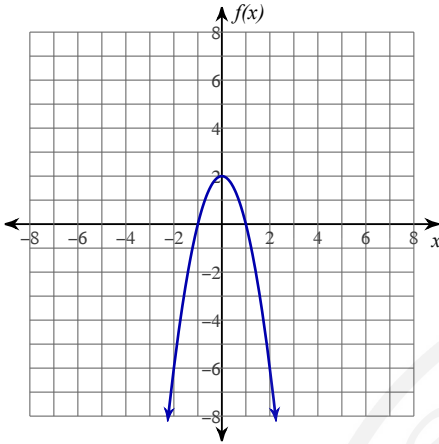


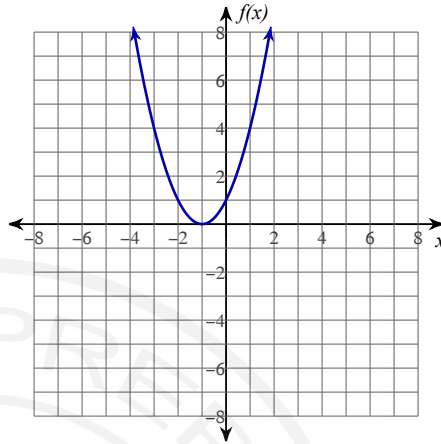
Assignment : Instant and average rate of change

For each problem, find the average rate of change of the function over the given interval and also find the instantaneous rate of change at the leftmost value of the given interval.

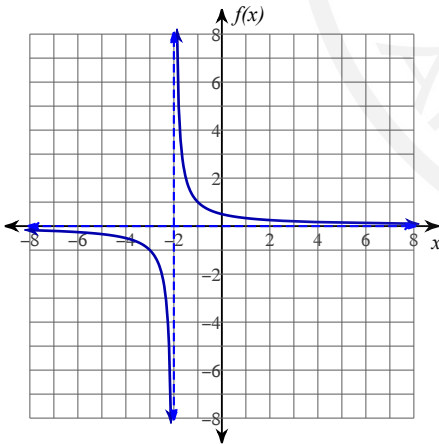
1) $f(x) = -2x^2 + 2$; $[-2, -\frac{3}{2}]$



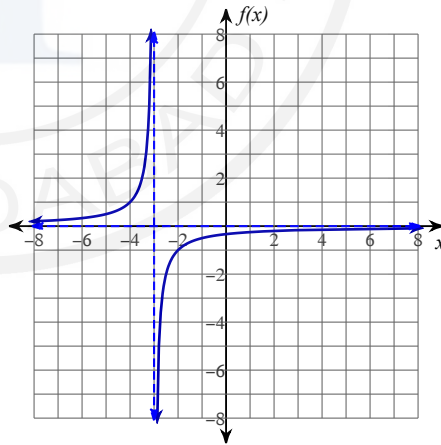
2) $f(x) = x^2 + 2x + 1$; $[-3, -\frac{5}{2}]$



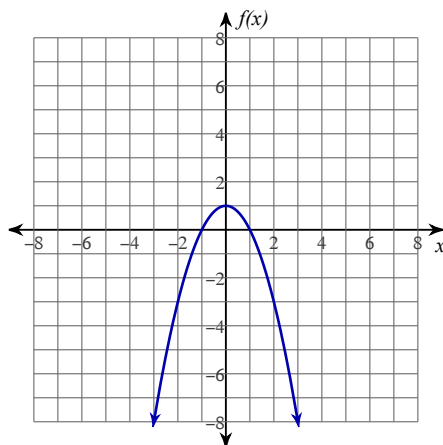
3) $f(x) = \frac{1}{x+2}$; $[0, \frac{1}{2}]$



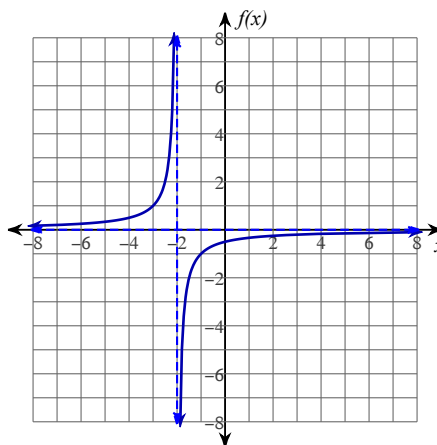
4) $f(x) = -\frac{1}{x+3}$; $[-2, -\frac{3}{2}]$



5) $f(x) = -x^2 + 1$; $[1, \frac{3}{2}]$

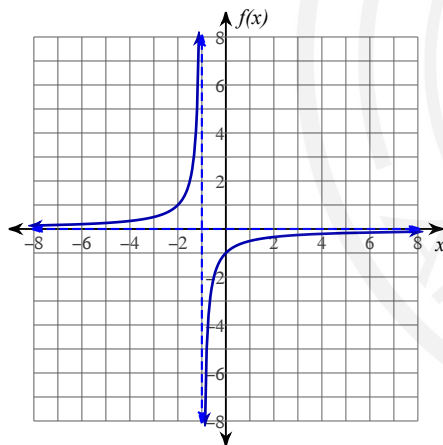


6) $f(x) = -\frac{1}{x+2}$; $[-1, -\frac{1}{2}]$

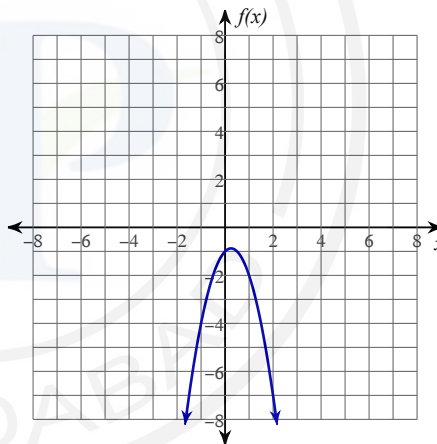


For each problem, find the average rate of change of the function over the given interval.

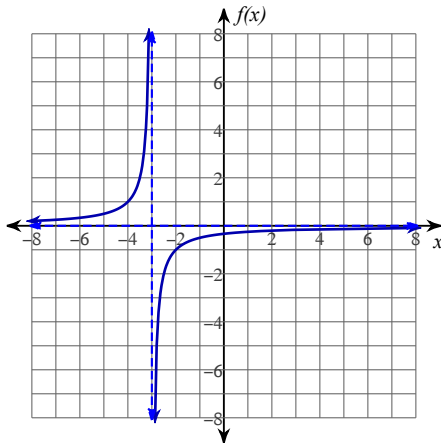
7) $f(x) = -\frac{1}{x+1}$; $[1, 2]$



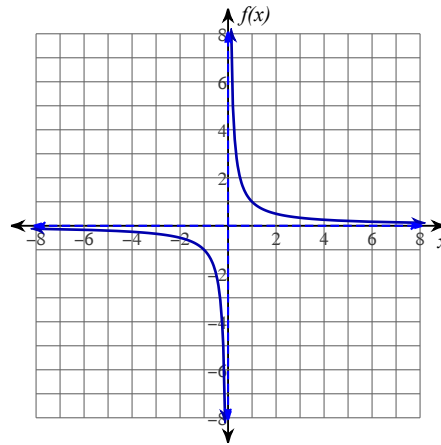
8) $f(x) = -2x^2 + x - 1$; $[-1, 0]$



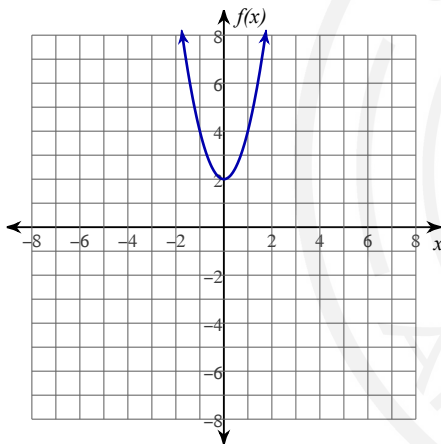
9) $f(x) = -\frac{1}{x+3}$; $[-1, 0]$



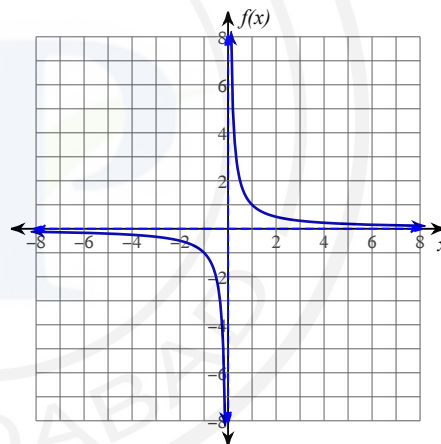
10) $f(x) = \frac{1}{x}$; $[1, 4]$



11) $f(x) = 2x^2 + 2$; $[0, 1]$



12) $f(x) = \frac{1}{x}$; $[2, 5]$



Answers to Assignment :Instant and average rate of change

1) Average: 7 Instant.: 8

2) Average: $-\frac{7}{2}$ Instant.: -4

3) Average: $-\frac{1}{5}$ Instant.: $-\frac{1}{4}$

4) Average: $\frac{2}{3}$ Instant.: 1

5) Average: $-\frac{5}{2}$ Instant.: -2

6) Average: $\frac{2}{3}$ Instant.: 1

7) $\frac{1}{6}$

8) 3

9) $\frac{1}{6}$

10) $-\frac{1}{4}$

11) 2

12) $-\frac{1}{10}$

