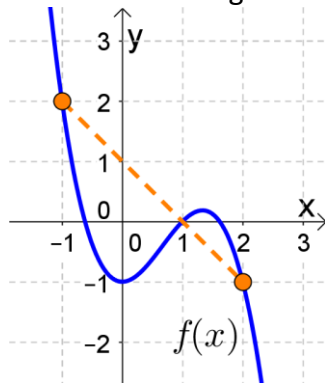


1. Find the average rate of change of $f(x) = \frac{1}{x}$ between $x = 1$ and $x = 4$.

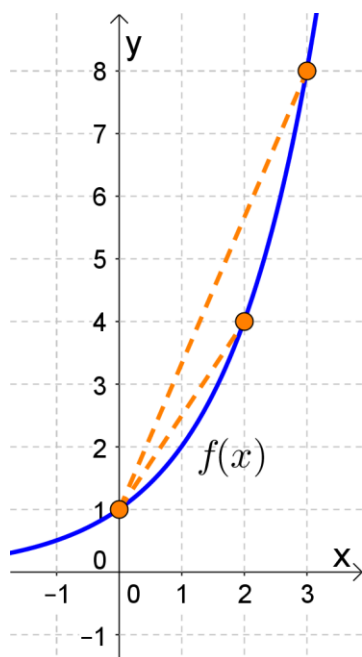
2. Find the average rate of change of $f(x) = -2x^2 + x - 3$ between $x = -1$ and $x = 2$.

3. Find the average rate of change of $f(x) = \frac{1}{x+2}$ between $x = 0$ and $x = 3$.

4. Find the average rate of change of $f(x)$ (shown below) between the indicated points on the graph.



5. The graph of $f(x)$ is shown below.



a) Use the graph to determine the average rate of change of $f(x)$ between $x = 0$ and $x = 2$.

b) Use the graph to determine the average rate of change of $f(x)$ between $x = 0$ and $x = 3$.

6. Below is a table of the average price of ground beef in the U.S. (in dollars per pound).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	2.191	2.229	2.218	2.309	2.363	2.338	2.299	2.422	2.377	2.206	2.302	2.303
2006	2.277	2.188	2.251	2.228	2.240	2.237	2.147	2.213	2.202	2.206	2.206	2.259
2007	2.185	2.304	2.292	2.254	2.307	2.333	2.366	2.395	2.372	2.260	2.289	2.234
2008	2.328	2.381	2.293	2.323	2.313	2.269	2.258	2.371	2.419	2.402	2.357	2.406
2009	2.357	2.436	2.269	2.251	2.257	2.234	2.147	2.134	2.138	2.177	2.062	2.186
2010	2.279	2.277	2.240	2.364	2.309	2.400	2.453	2.502	2.398	2.397	2.394	2.378
2011	2.533	2.659	2.715	2.722	2.694	2.774	2.818	2.819	2.868	2.876	2.899	2.921
2012	3.005	2.947	3.016	2.998	2.995	3.007	3.085	2.991	3.024		3.175	3.080
2013	3.407	3.379	3.332	3.268	3.311	3.382	3.459	3.454	3.502	3.389	3.477	3.460
2014	3.467	3.555	3.698	3.808	3.856	3.880	3.884	4.013	4.096	4.154	4.201	4.156
2015	4.235	4.238	4.200	4.231	4.136	4.221	4.200					

Source: Bureau of Labor Statistics, <http://data.bls.gov/timeseries/APU0000703112>

- a) Find the average rate of change of the price of ground beef between January 2010 and January 2015. Give your answer in dollars per pound per year.

- b) Find the average rate of change of the price of ground beef between July 2005 and July 2010. Give your answer in dollars per pound per year.

7. Below is a table of the median annual wages for application software developers in the U.S. (in dollars).

Month and Year	Median Annual Wage
May 2010	\$87,790
May 2011	\$89,280
May 2012	\$90,060
May 2013	\$92,660
May 2014	\$95,510

Source: Bureau of Labor Statistics, <http://www.bls.gov/oes/tables.htm>

- a) Find the average rate of change of the median annual wage for application software developers between May 2013 and May 2014. Give your answer in dollars per year.

- b) Find the average rate of change of the median annual wage for application software developers between May 2010 and May 2014. Give your answer in dollars per year.
- c) Go sign up for a computer science class right now. (Only kidding! 😊)

Optional exercises from the Sullivan book if you'd like more practice:
2.3 (p.78) #65, 67, 81cde, 82cde