

Math 263A Class Drill 5a: Finding Derivatives Graphically Using a Ruler

The goal is: given the graph of f on the top axes, make a graph of f' on the bottom axes.

On the graph of f' the inputs will be x and the outputs will be $f'(x)$. Remember how $f'(x)$ is defined

Definition of the derivative

- symbol: $f'(a)$
- graphical interpretation: the slope m of the line tangent to the graph of f at the point where $x = a$.

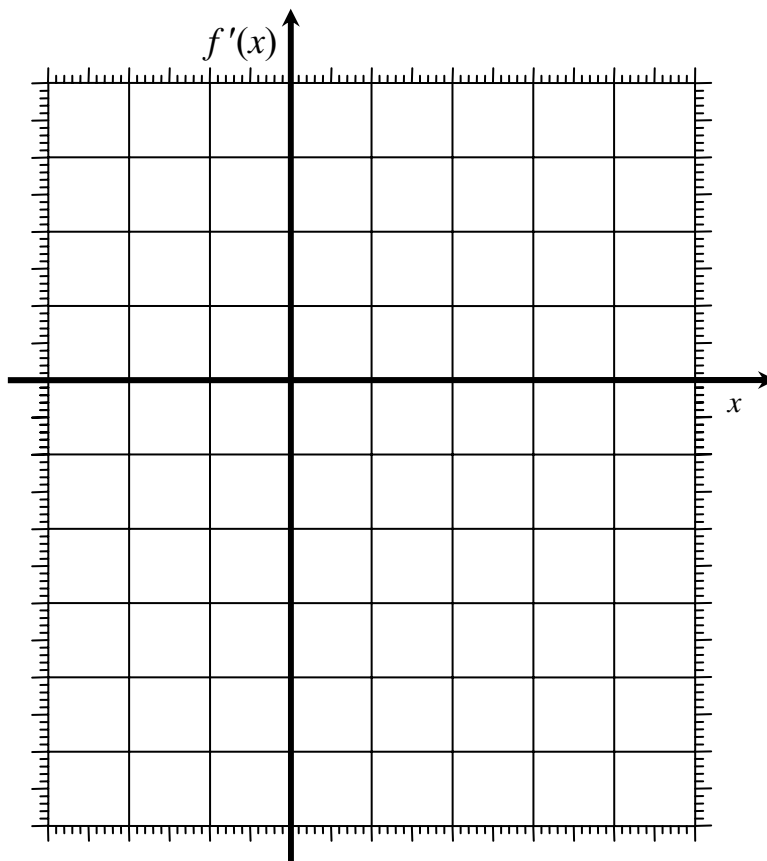
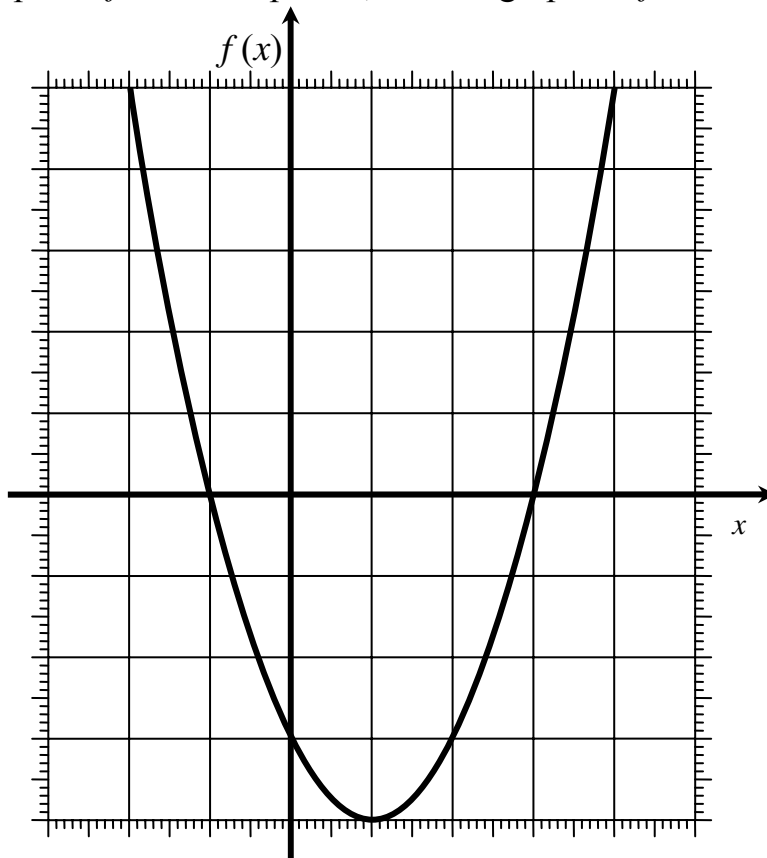
Prepare the data for your graph of f' by filling out the following table.

x	what to do on the graph	$f'(x)$
-2	Draw the line tangent to the graph of f at the point where $x = -2$ and find its slope, m . This slope m will be the value of $f'(-2)$.	
-1	Draw the line tangent to the graph of f at the point where $x = -1$ and find its slope, m . This slope m will be the value of $f'(-1)$.	
0	Draw the line tangent to the graph of f at the point where $x = 0$ and find its slope, m . This slope m will be the value of $f'(0)$.	
1	Draw the line tangent to the graph of f at the point where $x = 1$ and find its slope, m . This slope m will be the value of $f'(1)$.	
2	Draw the line tangent to the graph of f at the point where $x = 2$ and find its slope, m . This slope m will be the value of $f'(2)$.	
3	Draw the line tangent to the graph of f at the point where $x = 3$ and find its slope, m . This slope m will be the value of $f'(3)$.	
4	Draw the line tangent to the graph of f at the point where $x = 4$ and find its slope, m . This slope m will be the value of $f'(4)$.	

Using the $(x, f'(x))$ data from your table, make a graph of f' on the bottom axes.

Math 263A Class Drill 5a: Finding Derivatives Graphically Using a Ruler

Given the graph of f on the top axes, make a graph of f' on the bottom axes.



Math 263A Class Drill 5b: Finding Derivatives Graphically Using a Ruler

The goal is: given the graph of f on the top axes, make a graph of f' on the bottom axes.

On the graph of f' the inputs will be x and the outputs will be $f'(x)$. Remember how $f'(x)$ is defined

Definition of the derivative

- symbol: $f'(a)$
- graphical interpretation: the slope m of the line tangent to the graph of f at the point where $x = a$.

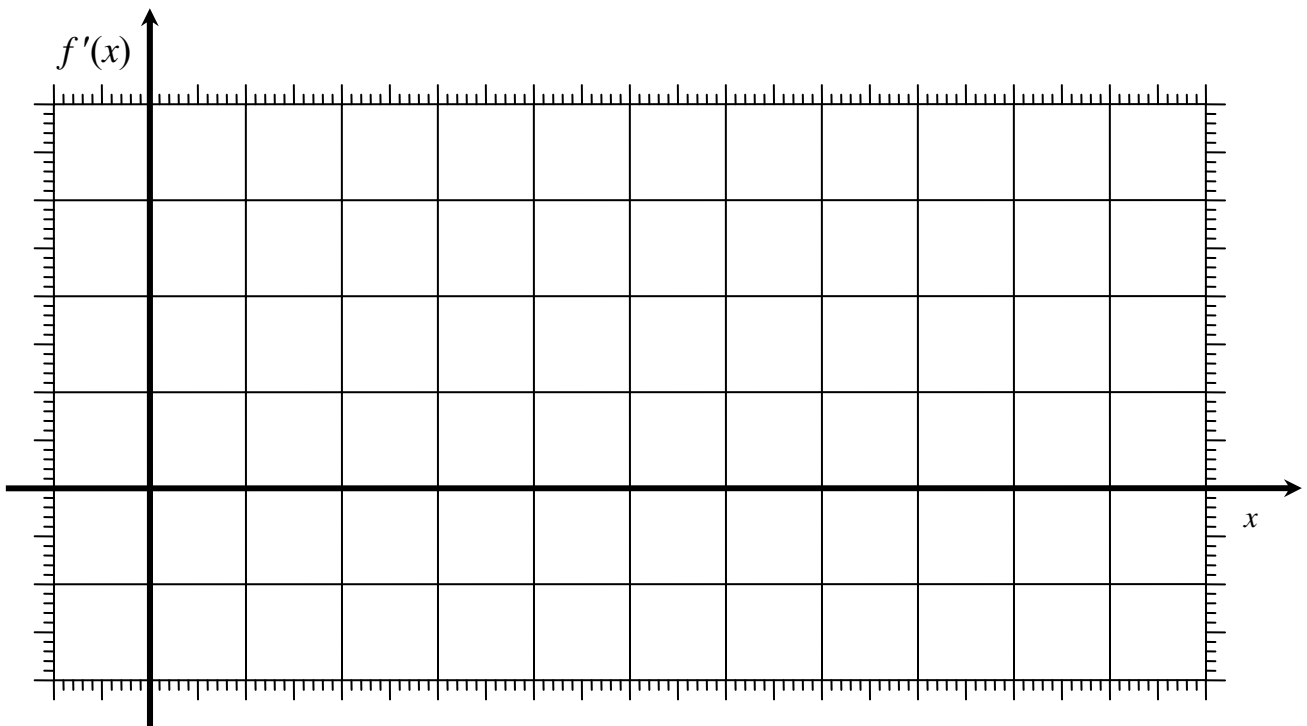
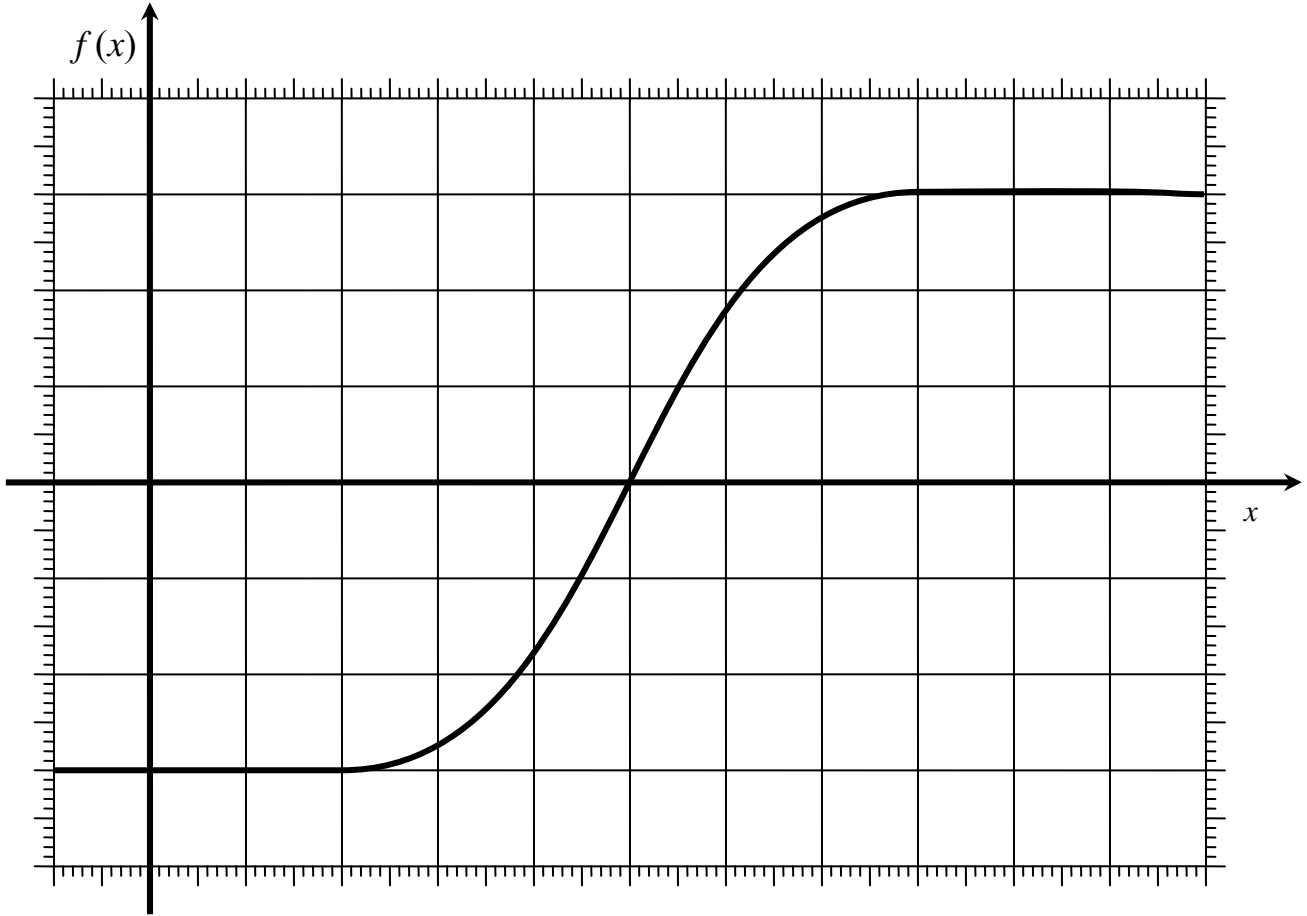
Prepare the data for your graph of f' by filling out the following table.

x	what to do on the graph	$f'(x)$
0	Draw the line tangent to the graph of f at the point where $x = 0$ and find its slope, m . This slope m will be the value of $f'(0)$.	
1	Draw the line tangent to the graph of f at the point where $x = 1$ and find its slope, m . This slope m will be the value of $f'(1)$.	
2	Draw the line tangent to the graph of f at the point where $x = 2$ and find its slope, m . This slope m will be the value of $f'(2)$.	
3	Draw the line tangent to the graph of f at the point where $x = 3$ and find its slope, m . This slope m will be the value of $f'(3)$.	
4	Draw the line tangent to the graph of f at the point where $x = 4$ and find its slope, m . This slope m will be the value of $f'(4)$.	
5	Draw the line tangent to the graph of f at the point where $x = 5$ and find its slope, m . This slope m will be the value of $f'(5)$.	
6	Draw the line tangent to the graph of f at the point where $x = 6$ and find its slope, m . This slope m will be the value of $f'(6)$.	
7	Draw the line tangent to the graph of f at the point where $x = 7$ and find its slope, m . This slope m will be the value of $f'(7)$.	
8	Draw the line tangent to the graph of f at the point where $x = 8$ and find its slope, m . This slope m will be the value of $f'(8)$.	
9	Draw the line tangent to the graph of f at the point where $x = 9$ and find its slope, m . This slope m will be the value of $f'(9)$.	
10	Draw the line tangent to the graph of f at the point where $x = 10$ and find its slope, m . This slope m will be the value of $f'(10)$.	

Using the $(x, f'(x))$ data from your table, make a graph of f' on the bottom axes.

Math 263A Class Drill 5b: Finding Derivatives Graphically Using a Ruler

Given the graph of f on the top axes, make a graph of f' on the bottom axes.



Math 263A Class Drill 5c: Finding Derivatives Graphically Using a Ruler

The goal is: given the graph of f on the top axes, make a graph of f' on the bottom axes.

On the graph of f' the inputs will be x and the outputs will be $f'(x)$. Remember how $f'(x)$ is defined

Definition of the derivative

- symbol: $f'(a)$
- graphical interpretation: the slope m of the line tangent to the graph of f at the point where $x = a$.

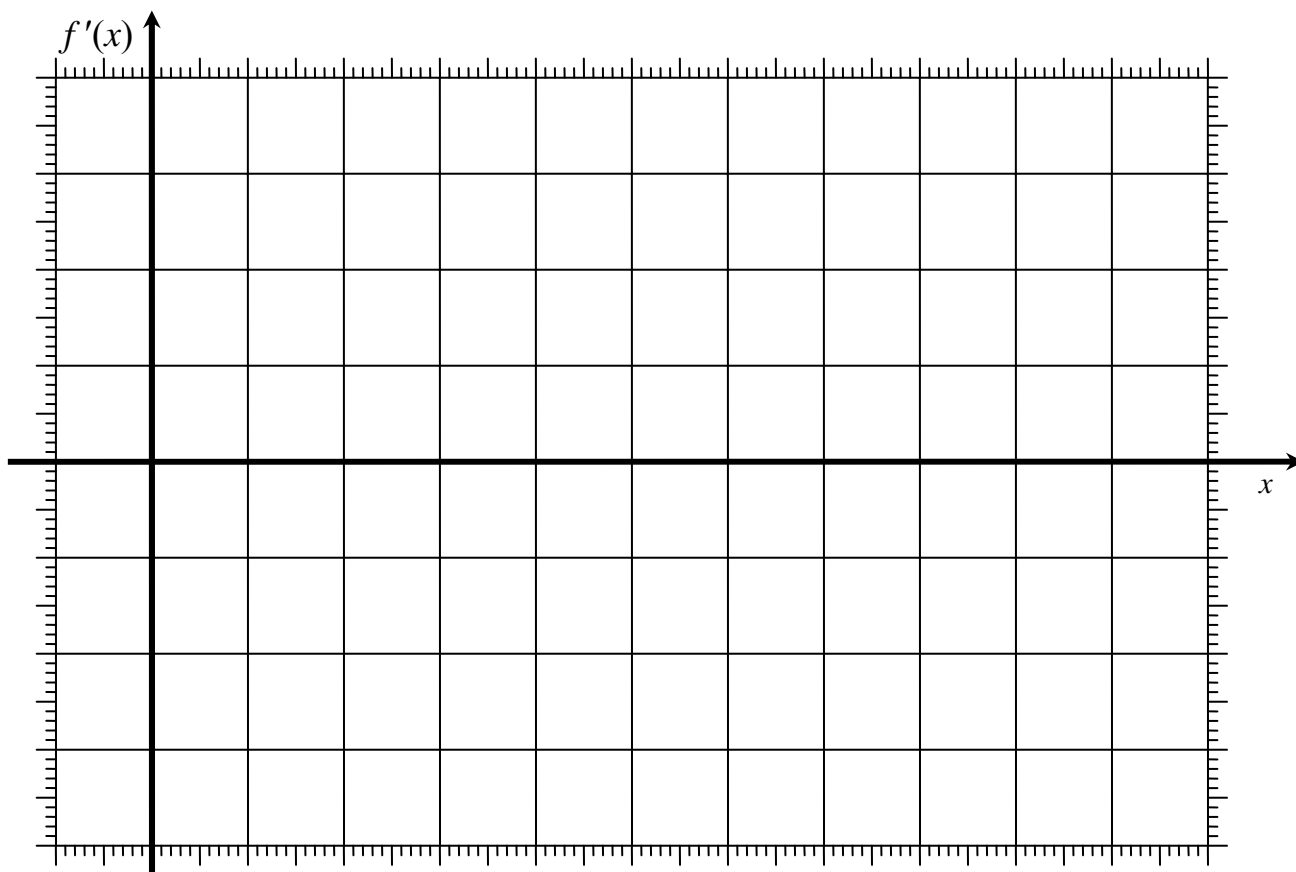
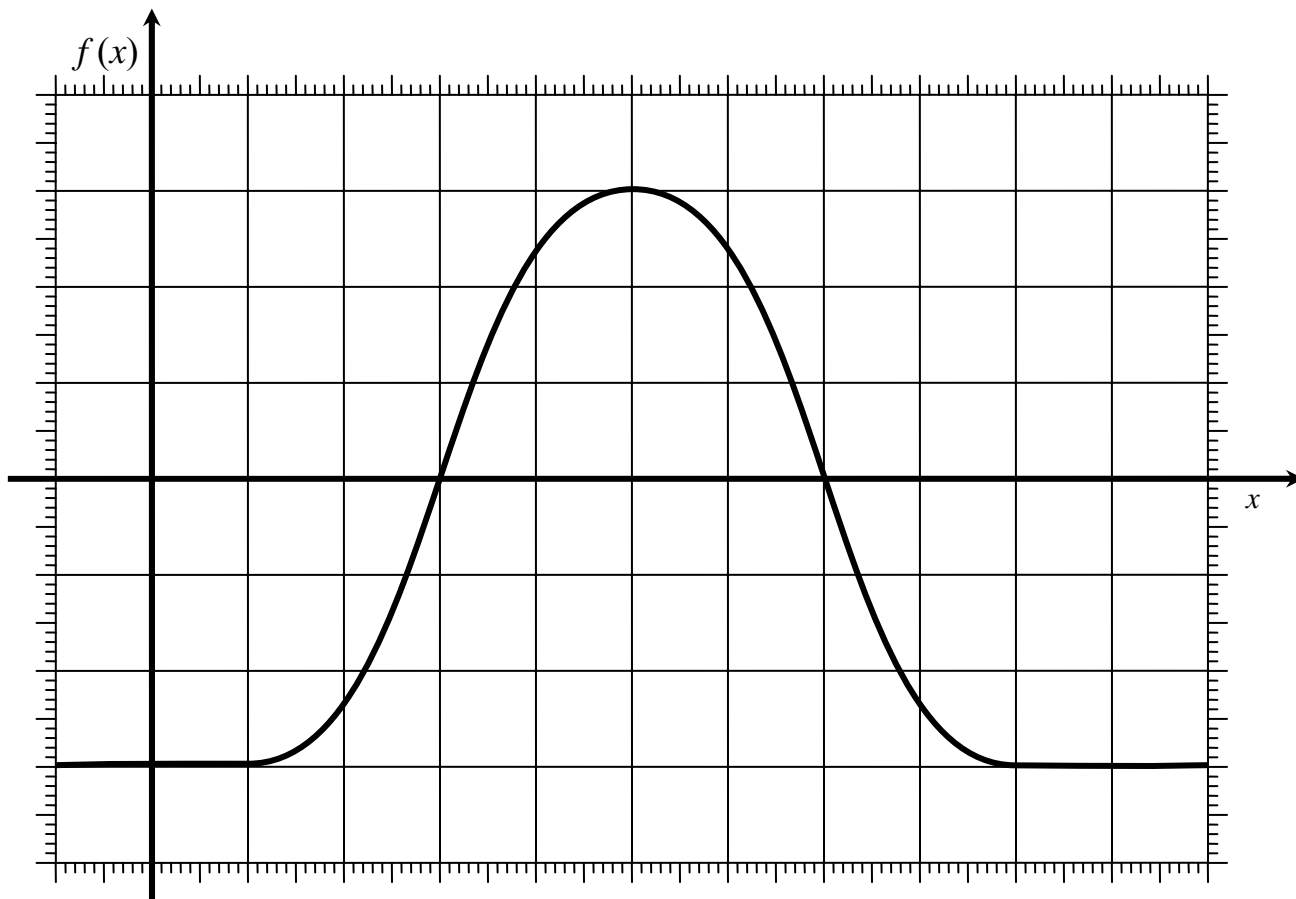
Prepare the data for your graph of f' by filling out the following table.

x	what to do on the graph	$f'(x)$
0	Draw the line tangent to the graph of f at the point where $x = 0$ and find its slope, m . This slope m will be the value of $f'(0)$.	
1	Draw the line tangent to the graph of f at the point where $x = 1$ and find its slope, m . This slope m will be the value of $f'(1)$.	
2	Draw the line tangent to the graph of f at the point where $x = 2$ and find its slope, m . This slope m will be the value of $f'(2)$.	
3	Draw the line tangent to the graph of f at the point where $x = 3$ and find its slope, m . This slope m will be the value of $f'(3)$.	
4	Draw the line tangent to the graph of f at the point where $x = 4$ and find its slope, m . This slope m will be the value of $f'(4)$.	
5	Draw the line tangent to the graph of f at the point where $x = 5$ and find its slope, m . This slope m will be the value of $f'(5)$.	
6	Draw the line tangent to the graph of f at the point where $x = 6$ and find its slope, m . This slope m will be the value of $f'(6)$.	
7	Draw the line tangent to the graph of f at the point where $x = 7$ and find its slope, m . This slope m will be the value of $f'(7)$.	
8	Draw the line tangent to the graph of f at the point where $x = 8$ and find its slope, m . This slope m will be the value of $f'(8)$.	
9	Draw the line tangent to the graph of f at the point where $x = 9$ and find its slope, m . This slope m will be the value of $f'(9)$.	
10	Draw the line tangent to the graph of f at the point where $x = 10$ and find its slope, m . This slope m will be the value of $f'(10)$.	

Using the $(x, f'(x))$ data from your table, make a graph of f' on the bottom axes.

Math 263A Class Drill 5c: Finding Derivatives Graphically Using a Ruler

Given the graph of f on the top axes, make a graph of f' on the bottom axes.



Math 263A Class Drill 5d: Finding Derivatives Graphically Using a Ruler

The goal is: given the graph of f on the top axes, make a graph of f' on the bottom axes.

On the graph of f' the inputs will be x and the outputs will be $f'(x)$. Remember how $f'(x)$ is defined

Definition of the derivative

- symbol: $f'(a)$
- graphical interpretation: the slope m of the line tangent to the graph of f at the point where $x = a$.

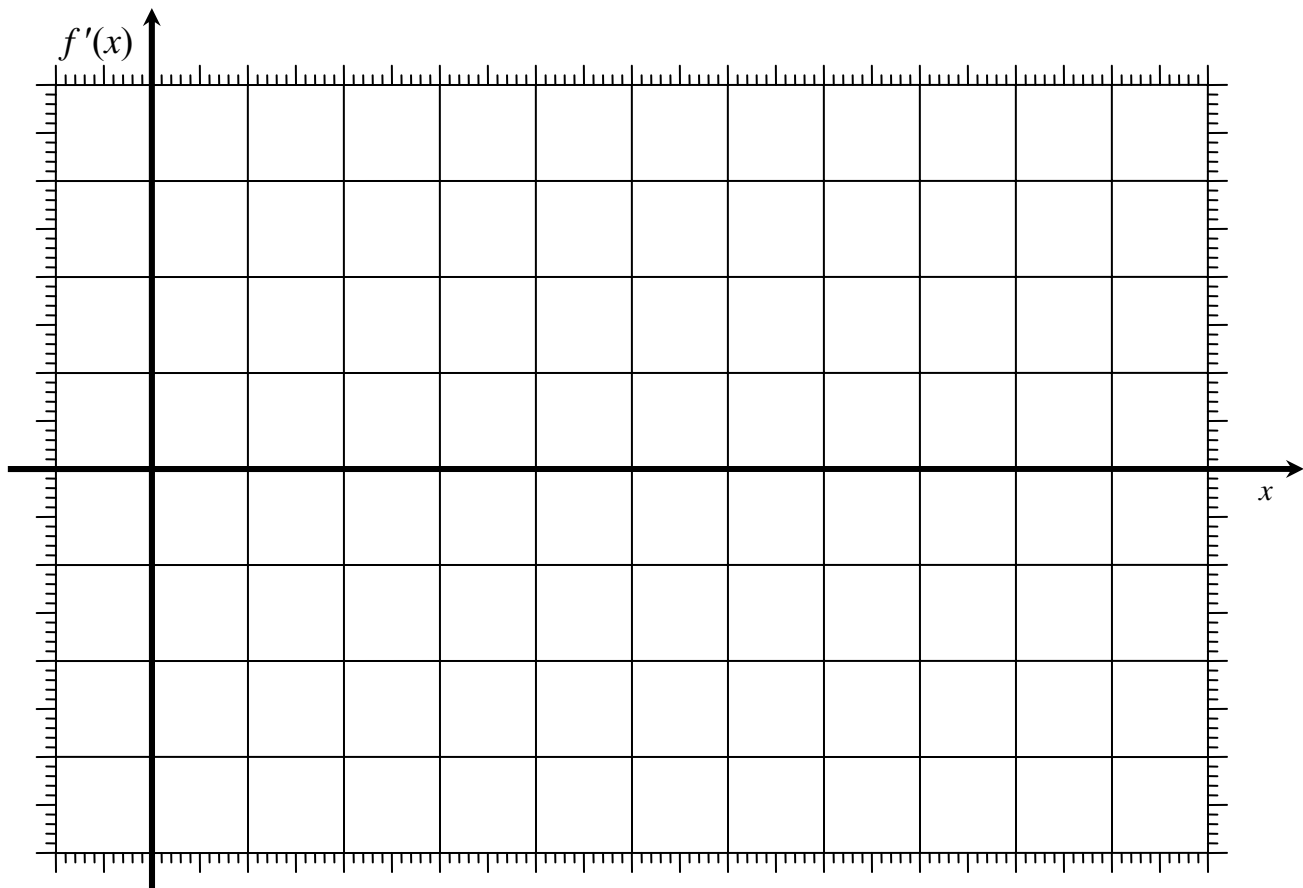
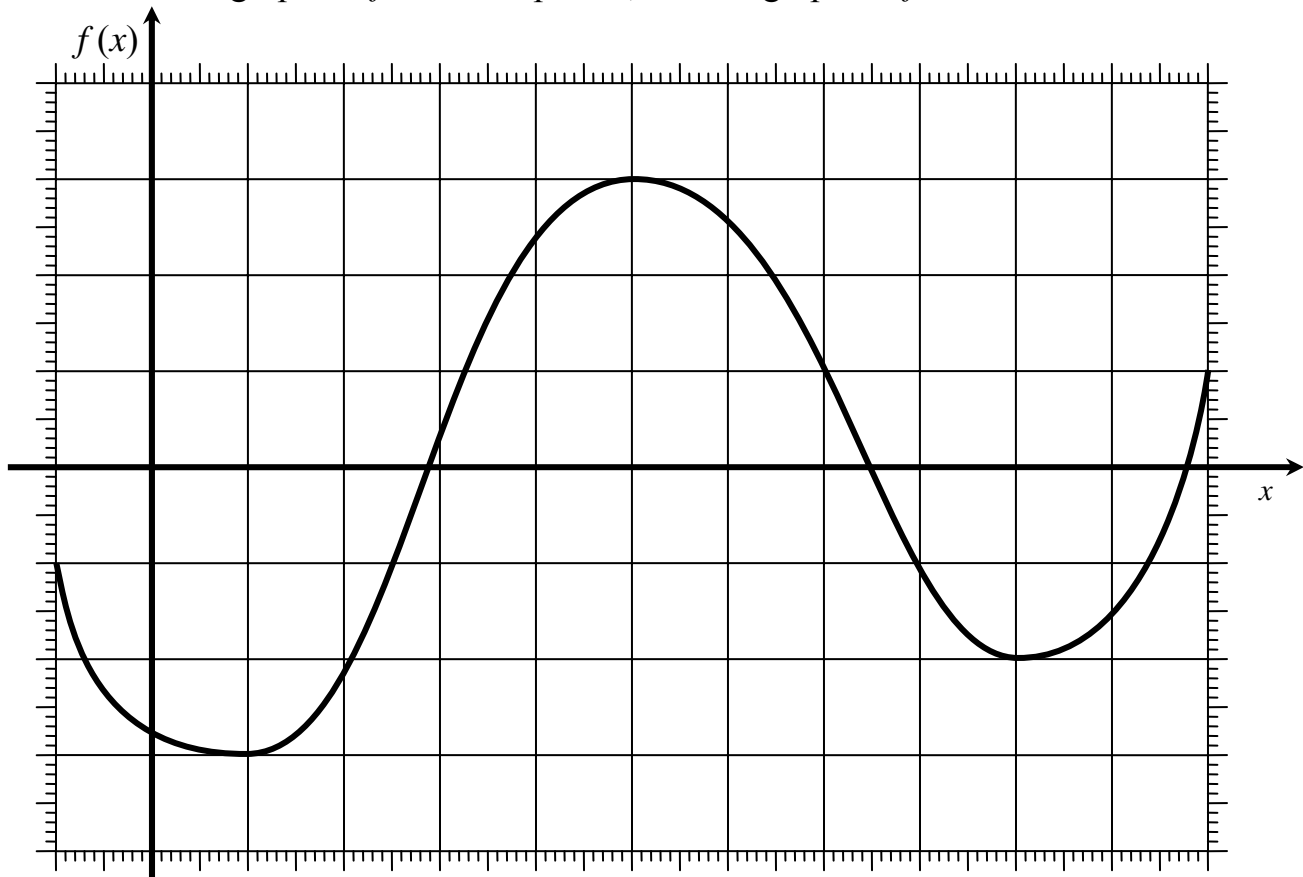
Prepare the data for your graph of f' by filling out the following table.

x	what to do on the graph	$f'(x)$
-1	Draw the line tangent to the graph of f at the point where $x = -1$ and find its slope, m . This slope m will be the value of $f'(-1)$.	
0	Draw the line tangent to the graph of f at the point where $x = 0$ and find its slope, m . This slope m will be the value of $f'(0)$.	
1	Draw the line tangent to the graph of f at the point where $x = 1$ and find its slope, m . This slope m will be the value of $f'(1)$.	
2	Draw the line tangent to the graph of f at the point where $x = 2$ and find its slope, m . This slope m will be the value of $f'(2)$.	
3	Draw the line tangent to the graph of f at the point where $x = 3$ and find its slope, m . This slope m will be the value of $f'(3)$.	
4	Draw the line tangent to the graph of f at the point where $x = 4$ and find its slope, m . This slope m will be the value of $f'(4)$.	
5	Draw the line tangent to the graph of f at the point where $x = 5$ and find its slope, m . This slope m will be the value of $f'(5)$.	
6	Draw the line tangent to the graph of f at the point where $x = 6$ and find its slope, m . This slope m will be the value of $f'(6)$.	
7	Draw the line tangent to the graph of f at the point where $x = 7$ and find its slope, m . This slope m will be the value of $f'(7)$.	
8	Draw the line tangent to the graph of f at the point where $x = 8$ and find its slope, m . This slope m will be the value of $f'(8)$.	
9	Draw the line tangent to the graph of f at the point where $x = 9$ and find its slope, m . This slope m will be the value of $f'(9)$.	
10	Draw the line tangent to the graph of f at the point where $x = 10$ and find its slope, m . This slope m will be the value of $f'(10)$.	
11	Draw the line tangent to the graph of f at the point where $x = 11$ and find its slope, m . This slope m will be the value of $f'(11)$.	

Using the $(x, f'(x))$ data from your table, make a graph of f' on the bottom axes.

Math 263A Class Drill 5d: Finding Derivatives Graphically Using a Ruler

Given the graph of f on the top axes, make a graph of f' on the bottom axes.



Math 263A Class Drill 5e: Finding Derivatives Graphically Using a Ruler

The goal is: given the graph of f on the top axes, make a graph of f' on the bottom axes.

On the graph of f' the inputs will be x and the outputs will be $f'(x)$. Remember how $f'(x)$ is defined

Definition of the derivative

- symbol: $f'(a)$
- graphical interpretation: the slope m of the line tangent to the graph of f at the point where $x = a$.

Prepare the data for your graph of f' by filling out the following table.

x	what to do on the graph	$f'(x)$
-1	Draw the line tangent to the graph of f at the point where $x = -1$ and find its slope, m . This slope m will be the value of $f'(-1)$.	
0	Draw the line tangent to the graph of f at the point where $x = 0$ and find its slope, m . This slope m will be the value of $f'(0)$.	
1	Draw the line tangent to the graph of f at the point where $x = 1$ and find its slope, m . This slope m will be the value of $f'(1)$.	
2	Draw the line tangent to the graph of f at the point where $x = 2$ and find its slope, m . This slope m will be the value of $f'(2)$.	
3	Draw the line tangent to the graph of f at the point where $x = 3$ and find its slope, m . This slope m will be the value of $f'(3)$.	
4	Draw the line tangent to the graph of f at the point where $x = 4$ and find its slope, m . This slope m will be the value of $f'(4)$.	
5	Draw the line tangent to the graph of f at the point where $x = 5$ and find its slope, m . This slope m will be the value of $f'(5)$.	
6	Draw the line tangent to the graph of f at the point where $x = 6$ and find its slope, m . This slope m will be the value of $f'(6)$.	
7	Draw the line tangent to the graph of f at the point where $x = 7$ and find its slope, m . This slope m will be the value of $f'(7)$.	
8	Draw the line tangent to the graph of f at the point where $x = 8$ and find its slope, m . This slope m will be the value of $f'(8)$.	
9	Draw the line tangent to the graph of f at the point where $x = 9$ and find its slope, m . This slope m will be the value of $f'(9)$.	
10	Draw the line tangent to the graph of f at the point where $x = 10$ and find its slope, m . This slope m will be the value of $f'(10)$.	
11	Draw the line tangent to the graph of f at the point where $x = 11$ and find its slope, m . This slope m will be the value of $f'(11)$.	

Using the $(x, f'(x))$ data from your table, make a graph of f' on the bottom axes.

Math 263A Class Drill 5e: Finding Derivatives Graphically Using a Ruler

Given the graph of f on the top axes, make a graph of f' on the bottom axes.

