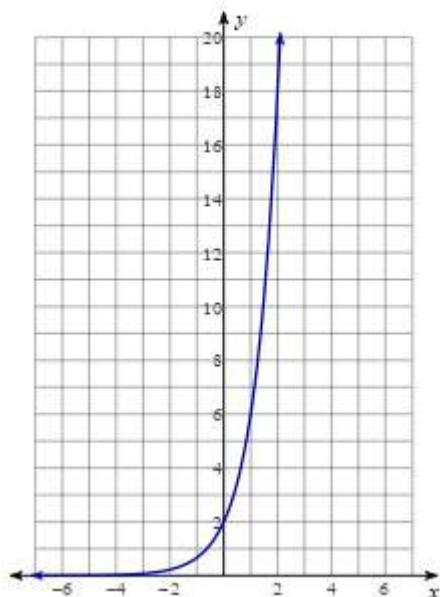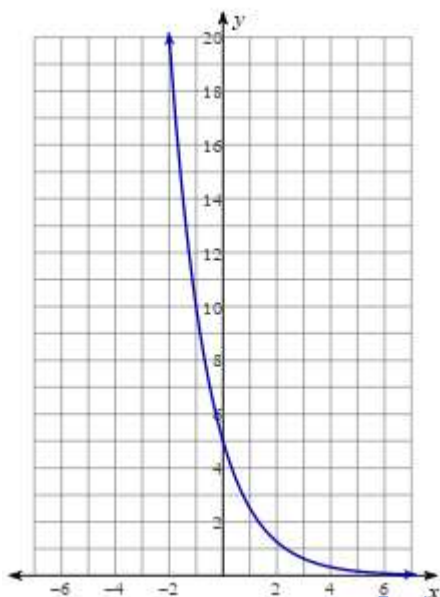## Lesson 2.3 Notes

1. Write the equation of the graph:

In order to write the equation of a graph, we should write a table of points where the line crosses the grid. We know that this function is exponential, so we are looking for the constant ratio and the $f(0)$.

x	$f(x)$
0	2
1	6
2	18

After we write out the points, it is easy to see that the constant ratio is 3 and the $f(0) = 2$.

So, the explicit equation is $f(x) = 3^x \cdot 2$

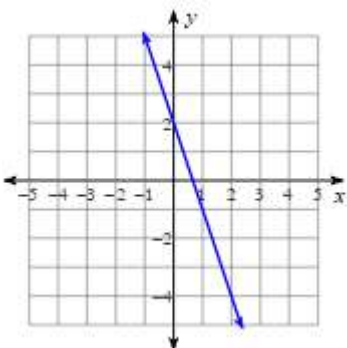2. Write the equation of the graph:

In order to write the equation of a graph, we should write a table of points where the line crosses the grid. We know that this function is exponential, so we are looking for the constant ratio and the $f(0)$.

x	$f(x)$
-1	10
0	5
1	2.5

After we write out the points, it is easy to see that the constant ratio is $\frac{1}{2}$ and the $f(0) = 5$.

So, the explicit equation is $f(x) = \left(\frac{1}{2}\right)^x \cdot 5$

3. Write the equation of the graph:

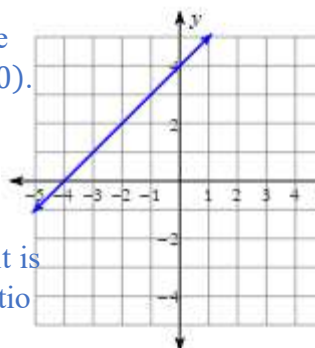Let's write a table of points where the line crosses the grid. We know that this function is linear so we are looking for the constant difference and the $f(0)$.

x	$f(x)$
0	2
1	-1

After we write out the points, it is easy to see that the constant ratio is -3 and the $f(0) = 2$.

So, the explicit equation is $f(x) = -3x + 2$

4. Write the equation of the graph:

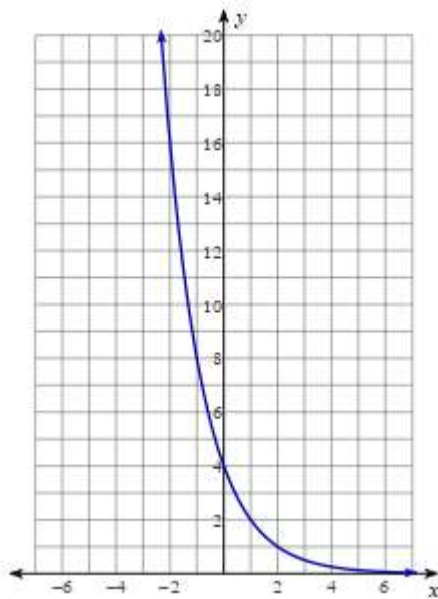Let's write a table of points where the line crosses the grid. We know that this function is linear so we are looking for the constant difference and the $f(0)$.

x	$f(x)$
1	3
0	4

After we write out the points, it is easy to see that the constant ratio is $+1$ and the $f(0) = 4$.

So, the explicit equation is $f(x) = x + 4$
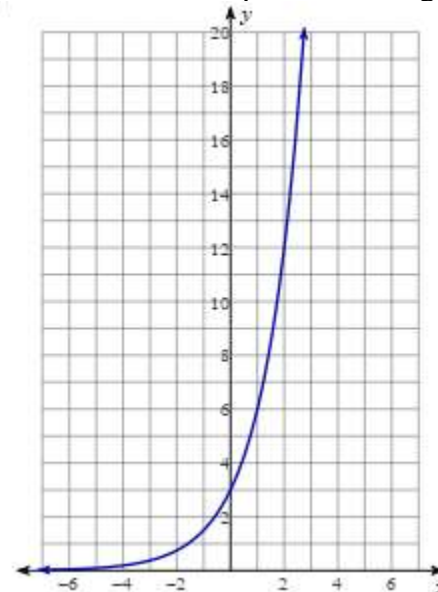
5. Write the equation of the graph:

In order to write the equation of a graph, we should write a table of points where the line crosses the grid. We know that this function is exponential, so we are looking for the constant ratio and the $f(0)$.

x	$f(x)$
-2	16
-1	8
0	4

After we write out the points, it is easy to see that the constant ratio is ½ and the $f(0) = 4$.

So, the explicit equation is $f(x) = \left(\frac{1}{2}\right)^x \cdot 4$

6. Write the equation of the graph:

In order to write the equation of a graph, we should write a table of points where the line crosses the grid. We know that this function is exponential, so we are looking for the constant ratio and the $f(0)$.
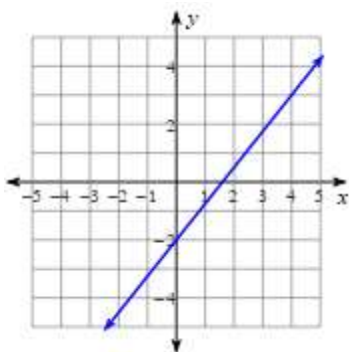
x	$f(x)$
0	3
1	6
2	12

After we write out the points, it is easy to see that the constant ratio is 2 and the $f(0) = 3$.

So, the explicit equation is $f(x) = 2^x \cdot 3$

Let's write a table of points
7. Write the equation of the graph: the line crosses the grid.

We know that this function is linear so we are looking for the constant difference and the $f(0)$.
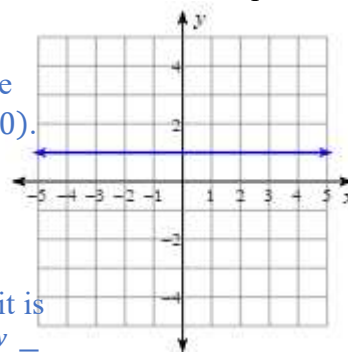
x	$f(x)$
0	-2
4	3

After we write out the points, it is easy to find that the slope is $\frac{\Delta y}{\Delta x} = \frac{-5}{4} = -\frac{5}{4}$ and the $f(0) = -2$.

So, the explicit equation is
$f(x) = -\frac{5}{4}x - 2$

8. Write the equation of the graph:

This function is a constant function and never changes. The y-value is always equal to 1.

So, the explicit equation is
$f(x) = 1$