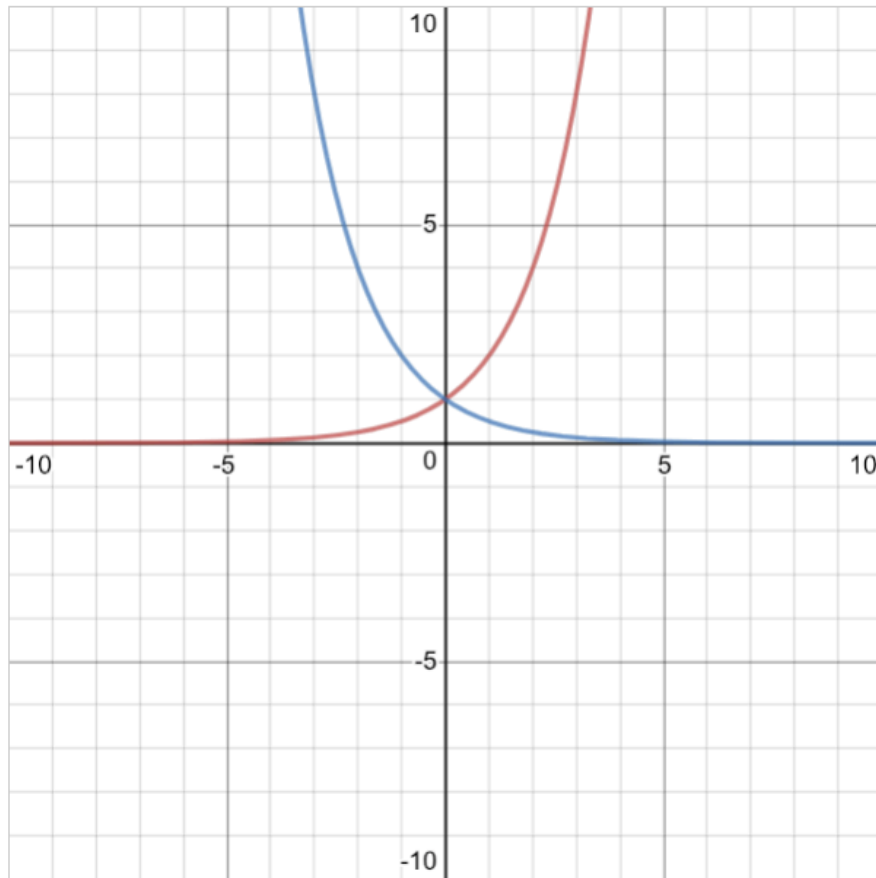


NOTES!



Write the following in your notebook:

IF the y-intercept (where the graph crosses the y-axis) is 1, the exponential function follows the rule:

$y = b^x$ where b is the number it multiplies by each time.

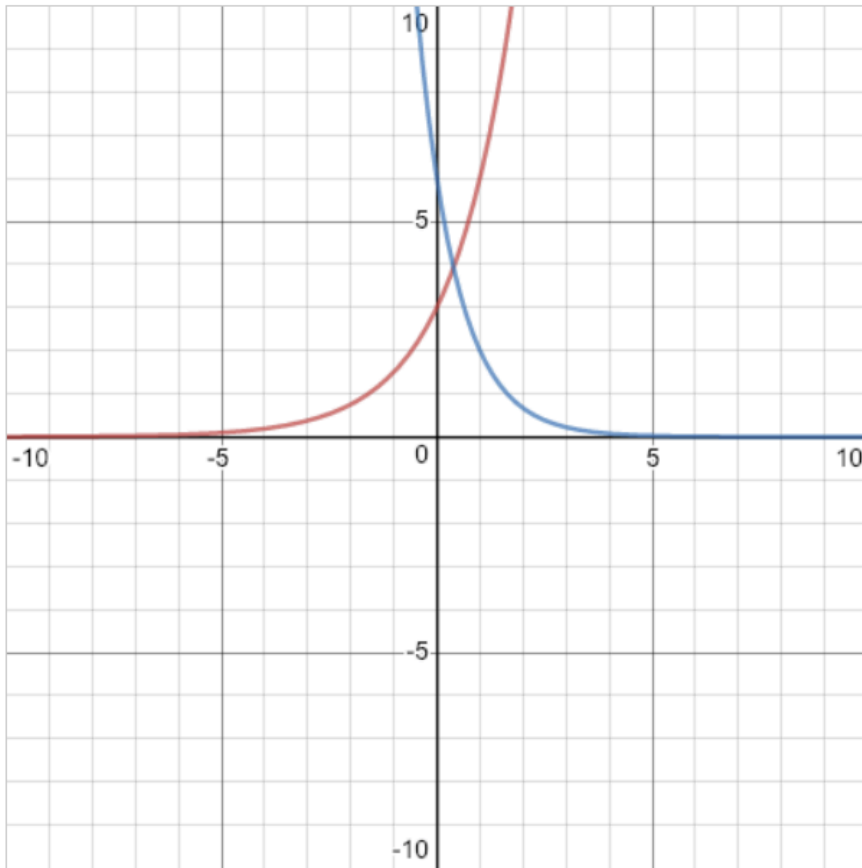
Ex: The red graph crosses the y-intercept at 1, and goes through the points (1, 2), (2, 4) and, (3, 8). The y-values are growing by $\times 2$ each time, so $b = 2$.

The equation is $y = 2^x$

Ex: The blue graph crosses the y-intercept at 1, and goes through the points (1, $\frac{1}{2}$), (2, $\frac{1}{4}$), and (3, $\frac{1}{8}$). The y-values are growing by $\times \frac{1}{2}$ each time, so $b = \frac{1}{2}$

The equation is $y = \frac{1}{2}^x$

Notes part 2.



Write the following in your notebook:

IF the y-intercept (where the graph crosses the y-axis) is NOT 1, the exponential function follows the rule:

$y = ab^x$ where b is the number it multiplies by each time and a is the y-intercept (starting value).

Ex: The red graph crosses the y-intercept at 3, and goes through the points (0,3) and (1, 6). The y-values are growing by $\times 2$ each time, so $b = 2$.

The equation is $y = 3 \cdot 2^x$

Ex: The red graph crosses the y-intercept at 6, and goes through the points (0, 6) and (1, 2). The y-values are growing by $\times \frac{1}{3}$ each time, so $b = \frac{1}{3}$.

The equation is $y = 6 \cdot \frac{1}{3}^x$