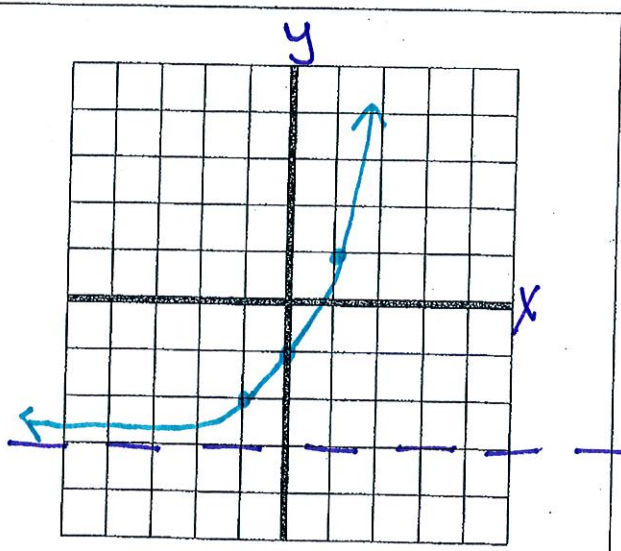


Graphing Exponential Functions Notes

| Exponential Functions | | | | | | | | | | | | | |
|-----------------------|---|---|---|----|-------|----|------|----|----|---|----|---|---|
| Form | $a(b)^{x-h} + k$ | | | | | | | | | | | | |
| Key Features | b^x base $b > 1$ Growth $b < 1$ Decay $k \rightarrow$ Asymptote $y = \underline{\hspace{2cm}}$ | | | | | | | | | | | | |
| Steps | <ol style="list-style-type: none"> 1. Identify the parent function (GVD) \div Asymptote 2. Graph w dotted line (Asymptote) $y = \underline{\hspace{2cm}}$ 3. Identify your h value 4. Take the opposite^(h) and place it in the middle of your table 5. Pick two points before and after h \rightarrow create the table 6. Plot points and graph | | | | | | | | | | | | |
| Example | <p>$g(x) = 2^{x+1} - 3$</p> <p>parent \rightarrow Growth Asymptote $y = -3$</p> <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>X</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-3</td> <td>-2.75</td> </tr> <tr> <td>-2</td> <td>-2.5</td> </tr> <tr> <td>-1</td> <td>-2</td> </tr> <tr> <td>0</td> <td>-1</td> </tr> <tr> <td>1</td> <td>1</td> </tr> </tbody> </table>  | X | y | -3 | -2.75 | -2 | -2.5 | -1 | -2 | 0 | -1 | 1 | 1 |
| X | y | | | | | | | | | | | | |
| -3 | -2.75 | | | | | | | | | | | | |
| -2 | -2.5 | | | | | | | | | | | | |
| -1 | -2 | | | | | | | | | | | | |
| 0 | -1 | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | |