

Find a viewing windrow that shows

$$
\begin{aligned}
& f(x)=x^{10} \\
& g(x)=2^{x}
\end{aligned}
$$

with $g(x)$ "beating $f(x)$

$$
\begin{aligned}
& {[29,78] \times\left[500,10^{18}\right]} \\
& {[40,65] \times\left[10^{10}, 7^{17}\right]}
\end{aligned}
$$

$$
\begin{aligned}
& \text { "Corner" in } 2^{x} \text { shift even here } \\
& \text { you muthply } y \text {-sale by a dater } \\
& \text { As you step from } x=n \text { to } x=n+1 \\
& 2^{x} \text { gets multiplied by } 2 \text {, whereas } \\
& x^{10} \text { gets multiplied by smaller and } \\
& \text { smaller factors. (close to } 1 \text { ) } \\
& \text { Choose } x \text { bo be a panes of } 2^{2} \text { wen } \\
& \text { comparing } x^{10} \text { and } 2^{x} \quad\left(\text { eg } x=2^{5}, 2^{6}, \cdots\right)
\end{aligned}
$$

| $2^{x}$ | $x^{10}$ |
| :---: | :---: | :---: |
| $2^{2^{5}}$ | $\left(2^{5}\right)^{10}=2^{50} \quad x=2^{5}$ |
| $2^{2^{6}}$ | $\left(2^{6}\right)^{10}=2^{60}$ |
|  |  |

