22. $\log _{y} 16=4$
$\frac{-4)}{\log _{2} \frac{1}{16}}=x$
$\sqrt[4]{y^{4}}=\sqrt[4]{16}$

$$
y=2
$$

$$
\begin{aligned}
& 2^{x}=\frac{1}{16} \\
& \frac{1}{2^{x}}=\frac{1}{16} \\
& \frac{1}{2^{4}}=\frac{1}{16}
\end{aligned}
$$


26. $\log _{2}(5 x-4)=\log _{2} 8$

$$
\begin{aligned}
5 x-4 & =8 \\
5 x & =12 \\
x & =\frac{12}{5}
\end{aligned}
$$

$$
\log _{5} 125=3
$$

$$
\begin{aligned}
& \text { product propinty, } \\
& \begin{array}{c}
\text { product progent } \\
\log _{b} m \\
m
\end{array} \log _{b} n=\log _{b}(m n) \\
& \log _{3} 9+\log _{3} 2=\log _{3} 18 \\
& q^{\text {quatient property }} \log _{b} m-\log _{b} n=\log _{b}\left(\frac{m}{n}\right) \\
& \log _{2} 100-\log _{7} 5=\log _{2} 100=\log _{7} 20 \\
& \text { power prugerty } \\
& \log _{b}^{\text {prugerty }} m^{p}=p \log _{b} m \\
& \text { 1. } \log _{2} 5+\log _{2} 7 \\
& \log _{3} 35 \\
& \text { 3. } 2 \log _{5} 6-2 \log _{5} 2 \\
& \begin{array}{l}
\log _{5} 6^{2}-\log _{5} 2^{2} \\
\log _{5} 36-\log _{5} 4 \\
\log _{5} \frac{36}{4} \\
\log _{5} 9
\end{array} \\
& \text { 2. } \log _{7} 48-\log _{7} 8 \\
& 1085 \\
& \text { log, } 6 \\
& \text { 4. } \log _{4} 13+4 \log _{4} 3 \\
& \log _{4} 13+\log _{4} 3^{4} \\
& \log _{4} 13+\log _{4} 81 \\
& \log _{4} 1053
\end{aligned}
$$

cannot have log of zero/nesative
5. $3 \log _{5} x-\log _{5} 4=\log _{5} 16$
6. $2 \log _{7} x=\log$

$$
\begin{gathered}
\log _{5} x^{3}-\log _{5} 4= \\
\log _{5} \frac{x^{3}}{4}=\log _{5} 16 \\
\frac{x^{3}}{4}=16 \\
\sqrt[3]{x^{3}}=\sqrt[3]{64} \\
x=4
\end{gathered}
$$

