(2)

$$
\begin{gathered}
\log _{2} 2 x+\log _{2} 3^{3}=\log _{2} \frac{324}{3} \\
\log _{2} 2 x+\log _{2} 27= \\
\log _{2} 54 x=\log _{2} 108 \\
54 x=108 \\
x=2
\end{gathered}
$$

(23)

$$
\begin{aligned}
& \log _{6} 24-\log _{6} x^{2}=2 \\
& \log _{6} \frac{24}{x^{2}}=2 \\
& 6^{2}=\frac{24}{x^{2}} \\
& 36 x^{2}=24 \\
& \sqrt{x^{2}}=\frac{24}{36} \\
& x=\frac{\sqrt{6}}{3}
\end{aligned}
$$

$$
\begin{gathered}
(28) \log 2^{6 n}=\log 51 \\
6 n \log 2=\log 51 \\
n=\frac{\log 51}{(6 \log 2)} \\
n=.9454
\end{gathered}
$$

(30)
$2 x \log 4=(x+1) \log 9$
$2 \times \log 4=x \log 9+\log 9$
$2 \times \log 4-x \log 9=\log 9$

$$
x(2 \log 4-\log 9)=\log 9
$$

$$
\begin{aligned}
& x=\frac{\log 9}{2 \log 4-\log 9}=\frac{\log 9}{\log 4^{2}-\log 9}=\frac{\log 9}{\log \left(\frac{16}{9}\right)} \\
& x \simeq 3.8188
\end{aligned}
$$

$\begin{array}{rlrl}(0,4) & (-2,1 b) & y=a(b)^{x} \\ 16 & =4(b)^{-2} \\ 16 & =\frac{4}{b^{2}} \\ 0, a) \\ \frac{16 b^{2}}{16} & =\frac{4}{16} \\ \sqrt{b^{2}} & =\sqrt{\frac{1}{4}}=\frac{\sqrt{1}}{\sqrt{4}} \\ b & =\frac{1}{2}\end{array}$

