Section 5.4: contd
Monday, November 24, 2014
8:36 AM

Solve:

$$
\begin{aligned}
\log _{x} 27 & =3 \\
27 & =x^{3} \\
x & =3
\end{aligned}
$$

$$
\begin{aligned}
\log _{5}(2 x+1) & =-1 \\
2 x+1 & =5^{-1} \\
2 x+1 & =1 / 5 \\
2 x & =-4 / 5 \\
x & =-\frac{4}{5} \cdot \frac{1}{\not ㇒} \\
& =-\frac{2}{5}
\end{aligned}
$$

$\qquad$

$$
\text { if } \log _{a} M=\log _{a} N
$$

$$
\begin{aligned}
\log _{y}(2 y+5) & =\log _{y}(y+10) \\
2 y+5 & =y+10 \\
y & =5
\end{aligned}
$$

then $M=N$

Solve: $\quad \ln x+\ln (x+4)=\ln \left(x^{2}+24\right)$

$$
\begin{aligned}
\ln x(x+4) & =\ln \left(x^{2}+24\right) \\
x(x+4) & =x^{2}+24
\end{aligned}
$$

make sue to combine to single

$$
x^{2}+4 x=x^{2}+24
$$

$\log !$

$$
x=6
$$

$$
\text { check: } \begin{aligned}
\ln 6 & +\ln 10 \\
& =\ln 60
\end{aligned}
$$

