

Section 5.4: cont'd

Monday, November 24, 2014

8:36 AM

solve: $\log_x 27 = 3$

$$27 = x^3$$

$$x = 3$$

$$\log_5 (2x+1) = -1$$

$$2x+1 = 5^{-1}$$

$$2x+1 = \frac{1}{5}$$

$$2x = -\frac{4}{5}$$

$$x = -\frac{4}{5} \cdot \frac{1}{2}$$

$$= -\frac{2}{5}$$

if $\log_a M = \log_a N$
then $M = N$

$$\log_y (2y+5) = \log_y (y+10)$$

$$2y+5 = y+10$$

$$y = 5$$

solve: $\ln x + \ln(x+4) = \ln(x^2+24)$

make sure
to combine
to single
log!

$$\ln x(x+4) = \ln (x^2+24)$$

$$x(x+4) = x^2 + 24$$

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

$$4x = 24$$

$$x = 6$$

$$\text{check: } \ln 6 + \ln 10 = \ln 60 \quad \checkmark$$