

Unit 5 Pg 28

$$(30) \log_4(2x+1) = \log_4(x-2)$$

$$2x+1 = x-2$$

$$x = -3$$

∅

$$(31) x^{-1} = \frac{1}{2}$$

$$x = 2$$

$$(32) \begin{matrix} 3^2 & = & x-4 \\ 4 & & 4 \end{matrix}$$

$$x = 13$$

$$(33) e^3 = 3x - 5$$

$$\frac{e^3 + 5}{3} = \frac{3x}{3}$$

$$x = \frac{e^3 + 5}{3}$$

$$x = 8.4$$

$$(34) \frac{4(2)^{3x}}{4} = \frac{22}{4}$$

$$2^{3x} = \frac{11}{2}$$

3x log

$$\log_2 \frac{11}{2} = 3x$$

$$x = \frac{1}{3} \log_2 \frac{11}{2}$$

$$x = .82$$

$$(35) e^{4x} = -4$$

∅

$$(36) \frac{x}{3} \log 7 = (2-x) \log 5$$

$$\frac{x}{3} \log 7 = 2 \log 5 - x \log 5$$

$$\frac{x}{3} \log 7 + x \log 5 = 2 \log 5$$

$$x \left(\frac{1}{3} \log 7 + \log 5 \right) = \frac{2 \log 5}{\left(\frac{1}{3} \log 7 + \log 5 \right)}$$

$$x = 1.43$$

$$(37) \text{Increase } 180\%$$

$$(38) \text{Decrease } 75\%$$