Sec 8-5: Solving Logarithmic and Exponential Functions

Exponential Eq's: • Isolate the exponential

- Rewrite as a logarithm
- Solve.

Logarithmic Eq's:

- Use properties of Logarithms to write as a single logarithm.
- Isolate the logarithm
- Rewrite as an exponential
- Solve.

3.
$$54^{x-3} + 8 = 17$$

$$54^{X-3} = 9$$
 $90.55 = X-3$
 $\log_{54} 9 = X-3$

4. $\log_5 2x + \log_5 4 = 3$

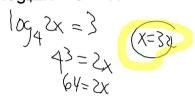
$$\log_5 2x \cdot 4 = 3$$
 $5^3 = 8x$ $\log_5 6x = 3$ $\log_5 6x = 3$ $\log_5 6x = 3$

Solve each:

1.
$$\log_9(x + 7) = 0.5$$

$$9^{\frac{1}{2}} = x+7$$
 $3 = x+7$
 $-y = x$

2.
$$4 \cdot \log_4 2x + 5 = 17$$



3.
$$\log x - \log(x + 3) = 2$$

$$|\log \frac{x}{x+3} = z| = \frac{x}{x+3}$$

$$|\nabla O SOL| = \frac{x}{x+3}$$

4.
$$2\log x^2 - \log(x + 2) = 0$$

$$|og \frac{x^{2}}{x+z} = 0$$