Two Logs on one side

$\log 2x^2 - \log 2 = 4$	$\log(x+4) - \log x = 1$

$$\log_{10} \frac{2x^2}{2} = 4$$

$$10^4 = x^2$$

$$\sqrt{10000} = \sqrt{x^2}$$

$$x = \pm 100$$

$$\log_{10}\left(\frac{x+4}{x}\right) = 1$$

$$\frac{10^1}{1} = \frac{x+4}{x}$$

$$\frac{10}{1} = \frac{x+4}{x}$$

$$10x = x+4$$
$$\underline{-x \quad -x}$$
$$9x = 4 \qquad x = 4/9$$

$\log_9 5 - \log_9(x-3) = 1$	$\log_6(x^2+2) + \log_6 3 = 1$

$$\log_9\left(\frac{5}{x-3}\right) = 1$$

$$\frac{9^1}{1} = \frac{5}{x-3}$$

$$\frac{9}{1} = \frac{5}{x-3}$$

$$5 = 9x - 27$$
$$\underline{+27 \qquad\quad +27}$$
$$32 = 9x$$

$$x = \frac{32}{9}$$

$$\log_6 3(x^2+2) = 1$$

$$6^1 = 3(x^2+2)$$
$$6 = 3x^2 + 6$$
$$\underline{-6 \qquad\qquad -6}$$
$$\frac{0}{3} = \frac{3x^2}{3}$$
$$\boxed{x^2 = 0 \\ x = 0}$$

$$\log_{11}(3x+2) = 3$$

$$11^3 = 3x + 2$$
$$1331 = 3x + 2$$
$$\underline{-2 \qquad\quad -2}$$
$$1329 = 3x \qquad x = 443$$