

Algebra log 2

$$\log_2(x - 1) = 3$$

$$\Rightarrow x-1 = 2^3$$

$$x=9$$

$$\log_2(x - 5) = 2$$

$$\Rightarrow x-5 = 2^2$$

$$x=9$$

$$\log_{\frac{1}{2}}(x - 2) = 3$$

$$\Rightarrow x-2 = \left(\frac{1}{2}\right)^3 = \frac{1}{8}$$

$$x = 2 + \frac{1}{8}$$

$$\log_{\frac{1}{2}}(x - 4) = -2$$

$$\Rightarrow x-4 = \left(\frac{1}{2}\right)^{-2} = 4$$

$$x = 8$$

$$\log_3(x - 1) = 0$$

$$\Rightarrow x-1 = 3^0$$

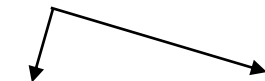
$$x - 1 = 1$$

$$x=2$$

$$\log_{(x-1)} 9 = 2$$

$$(x-1)^2 = 9$$

$$x-1 = \pm 3$$



$$x-1=3$$

$$x = 3+1 = 4$$

$$x-1=-3$$

$$x = -3+1 = -2$$

Impossible by definition