

$$\log_r r = \frac{1}{\log_r r} \Rightarrow \log_r r = \frac{1}{1} = 1 \quad \log_{10} 10 = \frac{\log_{10} 10}{\log_{10} 10} = \frac{1}{1} = 1 \quad \log_{10} 10 = \frac{1}{1} = 1$$

$$\log_{\frac{1}{r}} r = \frac{1}{\log_r r} = 1 \quad \log_r r = \frac{1}{\log_{\frac{1}{r}} r} = 1$$

$$\log_r r^m = m \log_r r = m$$

$$(r^x)^y = r^{xy} = (r^y)^x = r^{yx}$$

$$\log_r r^x = x \Rightarrow \log_r r^{x+1} = x+1$$

$$\log_r r = 1 \Rightarrow \log_r r^2 = 2 \Rightarrow \log_r r^3 = 3$$

$$-\frac{1}{a} + \frac{1}{b} = \frac{1}{c} \Rightarrow \frac{1}{b} = \frac{1}{c} + \frac{1}{a} \Rightarrow \frac{1}{b} = \frac{a+c}{ac} \Rightarrow b = \frac{ac}{a+c}$$

$$\frac{1}{a} + \frac{1}{b} = \frac{1}{c} \Rightarrow \frac{1}{a} = \frac{1}{c} - \frac{1}{b} \Rightarrow \frac{1}{a} = \frac{b-c}{bc} \Rightarrow a = \frac{bc}{b-c}$$

$$\frac{1}{a} + \frac{1}{b} = \frac{1}{c} \Rightarrow \frac{1}{a} = \frac{1}{c} - \frac{1}{b} \Rightarrow \frac{1}{a} = \frac{b-c}{bc}$$