

1.64
2

$$(\log_x 2) (\log_{2x} 2) (\log_2 4x) > 1$$

$$(\log_x 2) \frac{1}{\log_2 2x} \cdot (\log_2 4 + \log_2 x) > 1$$

$$\log_x 2 \cdot \frac{1}{\log_2 2 + \log_2 x} (2 + \log_2 x) > 1$$

$$\frac{1}{t} \cdot \frac{1}{1+t} \cdot (2+t) > 1$$

$$\log_2 x = t \quad (NO)$$

$$\Leftrightarrow \frac{2+t-t-t^2}{t(1+t)} = \frac{-t^2+2}{t(1+t)}$$

$$\frac{-\sqrt{2} \quad + \quad + \quad + \quad +}{-\sqrt{2} \quad -1 \quad - \quad 0 \quad + \quad + \quad \sqrt{2} \quad -}$$

$$-\sqrt{2} < t < -1$$

$$0 < t < \sqrt{2}$$

$$-\sqrt{2} < \log_2 x < -1$$

$$0 < \log_2 x < \sqrt{2}$$

$$2^{-\sqrt{2}} < x < 2^{-1}$$

$$1 < x < 2^{\sqrt{2}}$$