

1.59

4

$$x^3 - \log_2^2 x - \log_2 x^2 - \frac{1}{x} > 0$$

$$x^3 - \log_2^2 x - \log_2 x^2 > \frac{1}{x} = x^{-1}$$

$$3 - \log_2^2 x - \log_2 x^2 > -1$$

$$0 > \log_2^2 x + 2 \log_2 x - 4$$

$$0 > t^2 + 2t - 4$$

$$\frac{-2 - \sqrt{20}}{2} \quad \frac{-2 + \sqrt{20}}{2}$$

$$-1 - \sqrt{5} < t < -1 + \sqrt{5}$$

$$-1 - \sqrt{5} < \log_2 x < -1 + \sqrt{5}$$

$$2^{-1-\sqrt{5}} < x < 2^{-1+\sqrt{5}}$$

$$1 < x < 2^{-1+\sqrt{5}} \quad \text{p/n } x > 1 \text{ p/n}$$

$$3 - \log_2^2 x - \log_2 x^2 < -1$$

$$0 < \log_2^2 x + 2 \log_2 x - 4$$

$$0 < t^2 + 2t - 4$$

$$\frac{-2 - \sqrt{20}}{2} \quad \frac{-2 + \sqrt{20}}{2}$$

$$t > -1 + \sqrt{5} \rightarrow \log_2 x > -1 + \sqrt{5}$$

$$t < -1 - \sqrt{5} \rightarrow \log_2 x < -1 - \sqrt{5}$$

$$\text{p/n } x > 2^{-1+\sqrt{5}}$$

$$0 < x < 2^{-1-\sqrt{5}}$$

p/n

$$0 < x < 2^{-1-\sqrt{5}} \quad \text{p/n}$$

$$1 < x < 2^{-1+\sqrt{5}}$$