首先，要证明的结论是：

任取 $\varepsilon>0$，存在 $\delta>0$，使得当 $0<|x-x_0|<\delta$ 时，有

$$\left|\frac{1}{g(x)}-\frac{1}{B}\right|\left|\frac{1}{g(x)}-\frac{1}{B}\right|<\varepsilon \tag{1}$$

$$|\frac{1}{g(x)}-\frac{1}{B}||\frac{1}{2}||\tfrac{1}{2}| \tag{2}$$

$$\left|\frac{1}{g(x)}-\frac{1}{B}\right|\left|\frac{1}{2}\right|\left|\tfrac{1}{2}\right| \tag{3}$$

$$\left|\frac{1}{g(x)}-\frac{1}{B}\right|\left|\frac{1}{2}\right|\left|\tfrac{1}{2}\right| \tag{4}$$

$$\left|\frac{1}{g(x)}-\frac{1}{B}\right|\left|\frac{1}{2}\right|\left|\tfrac{1}{2}\right| \tag{5}$$

式(1)可化为：

$$\frac{|g(x)-B|}{|B|\,|g(x)|} \tag{6}$$

绝对值符号 $|\boldsymbol{a}|=\sqrt{x_1^2+y_1^2}$ $|\overrightarrow{AB}|=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

$\left|\overrightarrow{AB}\right|$ $|\overrightarrow{AB}|$ $|\overrightarrow{AB}|$ $\left|\overrightarrow{AB}\right|$ $\left|\overrightarrow{AB}\right|$ $\left|\overrightarrow{AB}\right|$

$|\tfrac{1}{2}||\frac{1}{2}||\dfrac{1}{2}|$ $\left|\tfrac{1}{2}\right|\left|\frac{1}{2}\right|\left|\dfrac{1}{2}\right|$ $\left|\tfrac{1}{2}\right|\left|\frac{1}{2}\right|\left|\dfrac{1}{2}\right|$ $\left|\tfrac{1}{2}\right|\left|\frac{1}{2}\right|\left|\dfrac{1}{2}\right|$

最佳方案：$\left|\tfrac{1}{2}\right|\left|\frac{1}{2}\right|\left|\dfrac{1}{2}\right|$

更多验证：$\left|\tfrac{1}{f(x)}\right|\left|\frac{1}{f(x)}\right|\left|\dfrac{1}{f(x)}\right|$

继续验证：$\left|\tfrac{g(x)}{f(x)}\right|\left|\frac{g(x)}{f(x)}\right|\left|\dfrac{g(x)}{f(x)}\right|$

更多验证：$\left|\tfrac{1}{f(x)}\right|\left|\tfrac{1}{f(x)}\right|\left|\frac{1}{f(x)}\right|\left|\frac{1}{f(x)}\right|\left|\dfrac{1}{f(x)}\right|\left|\dfrac{1}{f(x)}\right|$

继续验证：$\left|\tfrac{g(x)}{f(x)}\right|\left|\tfrac{g(x)}{f(x)}\right|\left|\frac{g(x)}{f(x)}\right|\left|\frac{g(x)}{f(x)}\right|\left|\dfrac{g(x)}{f(x)}\right|\left|\dfrac{g(x)}{f(x)}\right|$