

$$\frac{\log_3(13) \cdot \log_5(17)}{\log_3(289) \cdot \log_5(169)}$$

vereinfachen

Lösung:

$$\begin{aligned} \frac{\log_3(13) \cdot \log_5(17)}{\log_3(289) \cdot \log_5(169)} &= \frac{\frac{\lg(13)}{\lg(3)} \cdot \frac{\lg(17)}{\lg(5)}}{\frac{\lg(289)}{\lg(3)} \cdot \frac{\lg(169)}{\lg(5)}} = \frac{\lg(13)\lg(17)}{\lg(289)\lg(169)} \\ &= \frac{\lg(13)\lg(17)}{\lg(17^2)\lg(13^2)} = \frac{\lg(13) \cdot \lg(17)}{2\lg(17) \cdot 2\lg(13)} = \frac{1}{4} \end{aligned}$$