

Worksheet for Log

Evaluate:

1. If $\log_{10} \sqrt{1+x} + 3 \log_{10} \sqrt{1-x} = \log_{10} \sqrt{1-x^2} + 2$, then find x. [Ans. = x not defined]

2. If $y = 2^{\frac{1}{\log_x 8}}$, find x. [Ans. = y^3]

3. If $\log_e \left(\frac{a+b}{2} = \frac{1}{2} \right) (\log_e a + \log_e b)$, then find a in terms of b. [Ans. $\Rightarrow a = \frac{b}{2}$]

4. $4^{\log_3 \sqrt{3}} + 9^{\log_2 4} = \log_x 83$, then find x. [Ans. $\Rightarrow 10$]

5. If $\log_e (x-3) < 1$, then find x. [Ans. $\Rightarrow (3, 3+e)$]

6. If $\log_3 \log_4 x > 0$, then find x. [Ans. $x > 4$]

7. $\log_{10} \sqrt{1+x} + 3 \log_{10} \sqrt{1-x} = \log_{10} \sqrt{1-x^2} + 2$, then find x. [Ans. = no solution]