

Algebra 3 Assignment # 6

Definition of the logarithm

Solve for x please.

(1) $\log_4(64) = x$

(10) $5\ln\left(\sqrt[3]{e^2}\right) = x$

(2) $\log_6(x) = 2$

(11) $\log_x\left(\frac{1}{25}\right) = -2$

(3) $\log_x(9) = 2$

(12) $\log_{36}(216) = x$

(4) $\log_3(x) = -2$

(13) $\log_4(x) = -\frac{3}{2}$

(5) $\log_{25}(125) = x$

(14) $\log_8(4\sqrt{2}) = x$

(6) $\log_8(x) = \frac{2}{3}$

(15) $\log_x(6) = -\frac{1}{2}$

(7) $\log_{27}(81) = x$

(16) $x = 4^{3\ln(\sqrt{e})} + 5^{\ln(e^2)}$

(8) $\log_7(\sqrt{7}) = x$

(17) $\log_4(\log_2(x)) = \frac{1}{2}$

(9) $\log_{16}(x) = -\frac{3}{4}$

(18) $\log_{16}(\log_x(9)) = \frac{1}{4}$

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Answers

(1) 3

(10) $\frac{10}{3}$

(2) 36

(11) 5

(3) 3

(12) $\frac{3}{2}$

(4) $\frac{1}{9}$

(13) $\frac{1}{8}$

(5) $\frac{3}{2}$

(14) $\frac{5}{6}$

(6) 4

(15) $\frac{1}{36}$

(7) $\frac{4}{3}$

(16) 33

(8) $\frac{1}{2}$

(17) 4

(9) $\frac{1}{8}$

(18) 3