

Algebra 3 Assignment # 4

Definition of the logarithm

Solve for x please.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Answers

(1) 3

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

(2) 36

(10) 5

(3) 3

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

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

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

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

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

(6) 4

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

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

(15) 4

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

(16) 3