

Algebra 2/Trigonometry

8.6 Homework:

Solving Exponential & Logarithmic Equations

Name: _____

Date: _____ Block: _____

Directions: Solve each logarithmic equation.

11.) $\log_2(x + 2) + \log_2(x - 2) = 5$

$X = 6$ (-6 is extraneous)

12.) $\log_2 4 + \log_2 6 - \log_2 x = 3 \log_2 2$

$X = 3$

13.) $2 \log_2 4 + \log_2 x = \log_2 48$

$X = 3$

14.) $\log_x 9 = 2$

$X = 3$

(-3 is extraneous)

15.) $2 \log_3 x + \log_3 x = 3 \log_3 4$

$X = 4$

16.) $\frac{2}{3} \log_3 125 - \log_3 x = 2 \log_3 2$

$X = 6.25$

17.) $\log(x^2 - 15) = 1$

$X = 5, -5$

18.) $\log(x + 1) - \log x = 2$

$X = \frac{1}{99}$ or .010

19.) $\frac{1}{3} \log_3 8 - \log_3(x + 1) = \frac{1}{2} \log_3 16$

$X = -\frac{1}{2}$

20.) $\ln x - 2 \ln 4 = 3$

$X = 321.37$