

Logarithm properties

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Name _____

Date _____

Solve each equation.

1) $\log_8 9 - \log_8 2x = 2$

2) $\log_2 3 + \log_2 (x + 1) = 2$

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

4) $\log_3 6 - \log_3 -x = 1$

5) $\log_8 9 - \log_8 -x = \log_8 55$

6) $\log_2 (x + 2) - \log_2 x = \log_2 80$

7) $\ln (x - 1) - \ln 8 = 4$

8) $\log_8 9 - \log_8 (x + 3) = 1$

9) $\log_5 6 - \log_5 (x + 2) = 2$

10) $\ln 4 - \ln 2x = 3$

$$11) \log_9 (x+3) + \log_9 2 = 1$$

$$12) \log_5 9 - \log_5 -3x = \log_5 6$$

$$13) \log_9 6 - \log_9 (x+7) = \log_9 27$$

$$14) \log_2 (x+6) - \log_2 5 = 1$$

$$15) \log_3 x - \log_3 (x-6) = 3$$

$$16) \log_4 (x-8) - \log_4 2 = \log_4 38$$

$$17) \log_5 7 - \log_5 2x = \log_5 21$$

$$18) \log_6 7 - \log_6 (x-10) = 1$$

$$19) \log_9 8 - \log_9 4x = 1$$

$$20) \log_7 4 - \log_7 2x = 2$$

Answers to Logarithm properties

1) $\left(\frac{9}{128}\right)$

5) $\left(-\frac{9}{55}\right)$

9) $\left(-\frac{44}{25}\right)$

13) $\left(-\frac{61}{9}\right)$

17) $\left(\frac{1}{6}\right)$

2) $\left(\frac{1}{3}\right)$

6) $\left(\frac{2}{79}\right)$

10) $\left(\frac{2}{e^3}\right)$

14) $\{4\}$

18) $\left(\frac{67}{6}\right)$

3) $\left(\frac{1}{40}\right)$

7) $\{8e^4 + 1\}$

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

15) $\left(\frac{81}{13}\right)$

19) $\left(\frac{2}{9}\right)$

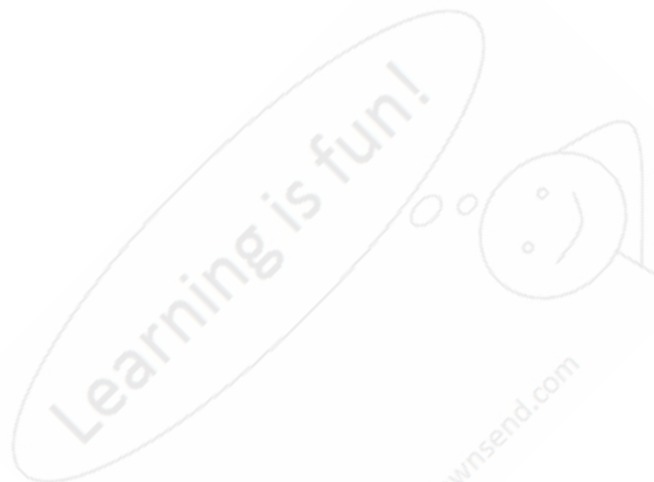
4) $\{-2\}$

8) $\left(-\frac{15}{8}\right)$

12) $\left(-\frac{1}{2}\right)$

16) $\{84\}$

20) $\left(\frac{2}{49}\right)$



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