

Name : _____

Score : _____

Teacher : _____

Date : _____

Inverse of Logarithms

Find each function's inverse.

1) $y = \log_3 5x$

8) $y = \log (-3x^3 + 9)$

2) $y = \log_7 x^2$

9) $y = \log_4 -6x^5$

3) $y = \log (-6x - 7)$

10) $y = \log_2 6x$

4) $y = \log_9 (-7x^3 - 9)$

11) $y = \log_4 (-5x^2 - 5)$

5) $y = \log_5 (-7x - 10)$

12) $y = \log_6 8x^4$

6) $y = 3\log 4x$

13) $y = \log_8 x^5$

7) $y = \log (-8x - 9)$

14) $y = -3\log_7 -4x$



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Inverse of Logarithms

Find each function's inverse.

1) $y = \log_3 5x$

$$y = \frac{3^x}{5}$$

2) $y = \log_7 x^2$

$$y = 7^{\frac{x}{2}}$$

3) $y = \log (-6x - 7)$

$$y = \frac{10^x + 7}{-6}$$

4) $y = \log_9 (-7x^3 - 9)$

$$y = \left(\frac{9^x + 9}{-7} \right)^{\frac{1}{3}}$$

5) $y = \log_5 (-7x - 10)$

$$y = \frac{5^x + 10}{-7}$$

6) $y = 3 \log 4x$

$$y = \frac{10^{\frac{x}{3}}}{4}$$

7) $y = \log (-8x - 9)$

$$y = \frac{10^x + 9}{-8}$$

8) $y = \log (-3x^3 + 9)$

$$y = \left(\frac{10^x - 9}{-3} \right)^{\frac{1}{3}}$$

9) $y = \log_4 -6x^5$

$$y = \left(\frac{4^x}{-6} \right)^{\frac{1}{5}}$$

10) $y = \log_2 6x$

$$y = \frac{2^x}{6}$$

11) $y = \log_4 (-5x^2 - 5)$

$$y = \left(\frac{4^x + 5}{-5} \right)^{\frac{1}{2}}$$

12) $y = \log_6 8x^4$

$$y = \left(\frac{6^x}{8} \right)^{\frac{1}{4}}$$

13) $y = \log_8 x^5$

$$y = 8^{\frac{x}{5}}$$

14) $y = -3 \log_7 -4x$

$$y = \frac{7^{-\frac{x}{3}}}{-4}$$

