

Math 3  
Review Worksheet  
Chapter 5-B

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

Do only the circled problems

Graph the function. State the domain and range.

1.  $y = \left(\frac{4}{3}\right)^x$

2.  $y = -2 \cdot 2^x$

3.  $y = 3^{x-3} - 2$

4.  $y = \frac{1}{4} \cdot 3^{x+1} + 2$

Graph the function. State the domain and range.

5.  $y = \left(\frac{3}{5}\right)^x$

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

7.  $y = (0.8)^{x-3} - 2$

8.  $y = 2\left(\frac{2}{3}\right)^x + 1$

Simplify the expression.

9.  $e^3 \cdot e^8$

10.  $(2e^{2x})^5$

11.  $\sqrt{81e^{8x}}$

12.  $\frac{28e^{3x}}{21e^{-x}}$

Graph the function. State the domain and range.

13.  $y = 0.5e^{3x}$

14.  $y = 2e^{-x} - 2$

15.  $y = 1.5e^{x+1} + 3$

16.  $y = e^{3(x-2)} + 1$

Evaluate the logarithm without using a calculator.

17.  $\log_4 \frac{1}{16}$

18.  $\log_6 6$

19.  $\log_5 125$

20.  $\log_{3/4} \frac{64}{27}$

Simplify the expression.

21.  $5^{\log_5 x}$

22.  $10^{\log_9 9}$

23.  $\log_4 16^x$

24.  $e^{\ln 5}$

Graph the function. State the domain and range.

25.  $y = \log_7 x$

26.  $y = \log_{1/2} (x - 4)$

27.  $y = \log_5 x + 3$

28.  $y = \log_3 (x - 2) + 1$

Expand the expression.

29.  $\log_5 \frac{2x}{5}$

30.  $\log \frac{100x^2}{y}$

31.  $\ln 20x^3y^2$

32.  $\log_2 \sqrt[3]{8x^4}$

Condense the expression.

33.  $\log_4 20 + 4 \log_4 x$

34.  $\log 7 + 2 \log x - 5 \log y$

35.  $0.5 \ln 100 - 2 \ln x + 8 \ln y$

Use the change-of-base formula to evaluate the logarithm.

36.  $\log_2 5$

37.  $\log_4 80$

38.  $\log_5 100$

39.  $\log_7 27$

Solve the equation. Check for extraneous solutions.

40.  $2^{4x+2} = 8^{x+2}$

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

42.  $7^{9x} = 18$

43.  $\ln(3x+7) = \ln(x-1)$

44.  $\log_5(3x+2) = 3$

45.  $\log_6(x+9) + \log_6 x = 2$

Write an exponential function  $y = ab^x$  whose graph passes through the given points.

46. (1, 8), (2, 32)

47. (1, 3), (3, 12)