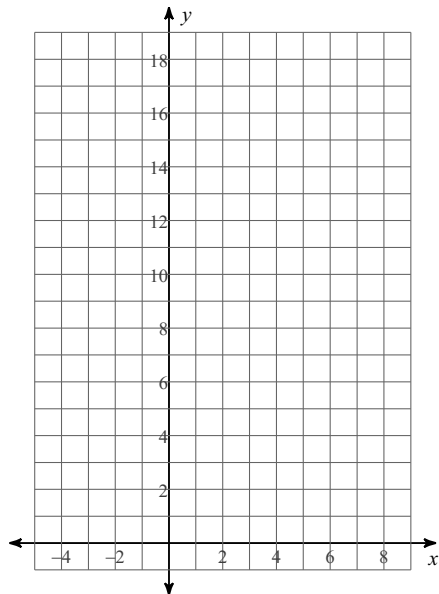


Practice Test - Chapter 3

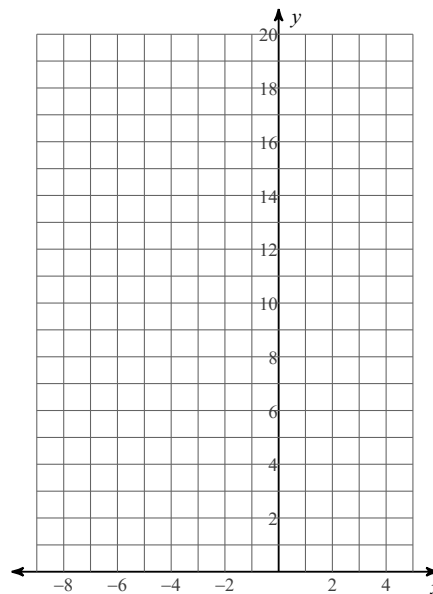
Date _____ Period ____ Score _____

Sketch the graph of each function.

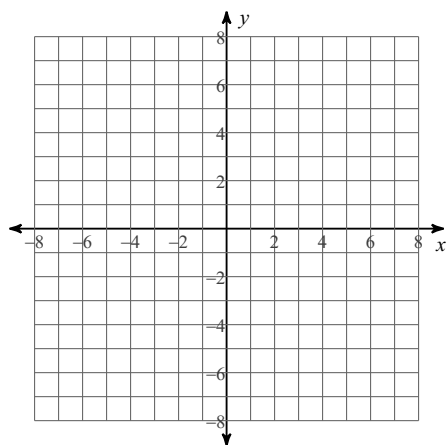
1) $f(x) = 4 \cdot 2^{x-2} - 1$



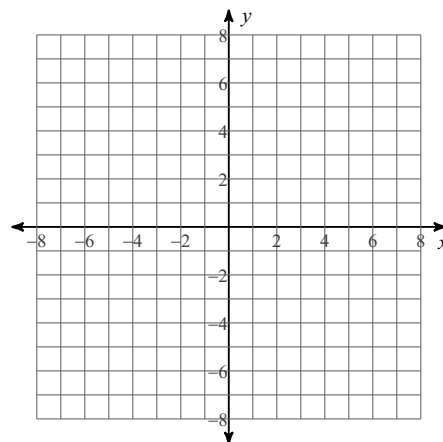
2) $f(x) = 4 \cdot \left(\frac{1}{2}\right)^{x+2} + 1$



3) $f(x) = \log_4(x-1) + 3$



4) $f(x) = \ln(x+6) - 1$

**Rewrite each equation in exponential form.**

5) $\log_x y = -3$

Rewrite each equation in logarithmic form.

6) $n^m = 66$

Solve each equation.

7) $27^{-2m} = 9$

Use a calculator to approximate each to the nearest thousandth.

9) $\log_3 84$

Condense each expression to a single logarithm.

11) $\log_4 z + \frac{\log_4 x}{2} + \frac{\log_4 y}{2}$

Solve each equation. Round your answers to the nearest ten-thousandth.

13) $-5^{-3b} = -19$

Solve each equation.

15) $\log_2 3x = \log_2 (2x + 5)$

17) $\log_7 (x + 12) + \log_7 x = \log_7 28$

19) Lisa invests \$1,842 in a savings account with a fixed annual interest rate of 6% compounded continuously. How long will it take for the account balance to reach \$3,563.89?

Evaluate each expression.

8) $\log_7 \frac{1}{343}$

Expand each logarithm.

10) $\log_2 (z^6 \sqrt[3]{x})$

Use the properties of logarithms and the values below to find the logarithm indicated. Do not use a calculator to evaluate the logs.

12) $\log 12 \approx 1.1$

$\log 7 \approx 0.8$

$\log 8 \approx 0.9$

Find $\log \frac{49}{8}$

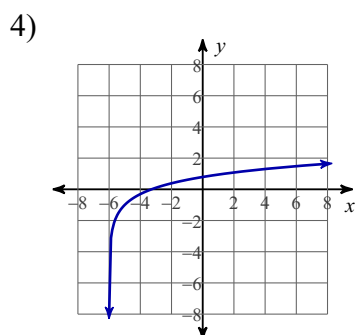
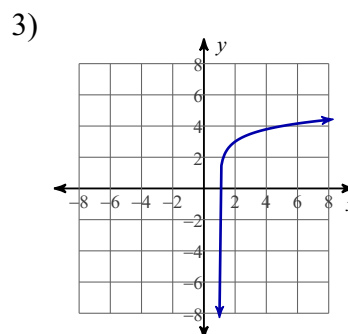
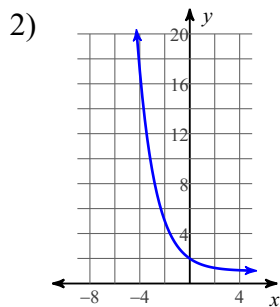
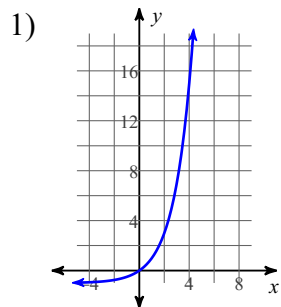
14) $-5 \cdot 17^{5k+10} + 10 = -2$

16) $\log (p + 10) + 10 = 14$

18) Ted invests \$6,916 in a savings account with a fixed annual interest rate of 9% compounded 2 times per year. What will the account balance be after 6 years?

20) Norachai invests a sum of money in a retirement account with a fixed annual interest rate of 2% compounded continuously. After 18 years, the balance reaches \$6,265.08. What was the amount of the initial investment?

Answers to Practice Test - Chapter 3 (ID: 1)



5) $x^{-3} = y$

6) $\log_n 66 = m$

7) $\left\{-\frac{1}{3}\right\}$

8) -3

9) 4.033

10) $6\log_2 z + \frac{\log_2 x}{3}$

11) $\log_4 (z\sqrt{yx})$

12) 0.7

13) -0.6098

14) -1.9382

15) $\{5\}$

16) $\{9990\}$

17) $\{2\}$

18) $\$11,728.72$

19) 11 years

20) $\$4,371$