

CHAPTER

7

Chapter Test

Form A

Select the best answer.

- Which function is an example of exponential growth?
 - $a(x) = 0.5(1.2)^x$
 - $b(x) = 2.4(0.86)^x$
- Ted's comic book collection, which was worth \$1300 five years ago, has been increasing in value by 12% per year since then. Which expression gives the current value of the collection?
 - $1300(1.12)^5$
 - $1300(.12)^5$
 - $1300(1.12)(5)$
- The student population of Valley High School has been steadily decreasing by 2% per year. If its population 8 years ago was 1200, which is the best expression for its population now?
 - $1200 - 1200(.02)^8$
 - $1200(.98)^8$
- If $g(x)$ is the inverse of $f(x) = \sqrt{x^3 + 1}$, which of the following is on $g(x)$?
 - (2, 3)
 - (3, 2)
- Which statement is NOT always true?
 - The inverse of a linear function is a function.
 - The inverse of a quadratic function is not a function.
 - If a function has two x -intercepts, then its inverse has two y -intercepts.
- Which is the inverse of $f(x) = \sqrt{2x + 5}$?
 - $a(x) = x^2 - \frac{5}{2}$
 - $c(x) = \frac{x^2}{2} - 5$
 - $d(x) = \frac{x^2 - 5}{2}$
- Which is the inverse of $f(x) = 6^x$?
 - $f^{-1}(x) = \log_x 6$
 - $f^{-1}(x) = \log_6 x$
 - $f^{-1}(x) = \frac{\log x}{6}$
- Which is the logarithmic form of $2^{10} = 1024$?
 - $\log_2 10 = 1024$
 - $\log_2 1024 = 10$
- Evaluate $\log_8 32$.
 - $\frac{3}{5}$
 - $\frac{5}{3}$
- Express $2\log 4 + 3\log 2$ as a single logarithm.
 - $6\log 8$
 - $5\log 6$
 - $\log 128$
- Which is the greatest?
 - $\log_2 32^8$
 - $\log_3 27^{13}$
 - $\log_4 2^{50}$
- Simplify $\log 10^9 + 10^{\log 9}$.
 - 18
 - 81
- Which is equal to $\log_5 100$?
 - $\frac{2}{\log 5}$
 - $\frac{100}{\log 5}$
- Solve $4^{4x-5} = 8^{3x-4}$.
 - $x = \frac{3}{2}$
 - $x = 2$
- Solve $3^{2x} = 30$.
 - $\frac{\log_3 30}{2}$
 - $\log_3 15$
 - $2\log_3 30$

CHAPTER 7 **Chapter Test**
Form A continued

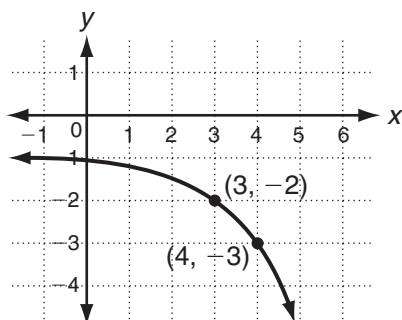
16. What is the solution set to the equation $\log_2(3x + 1) + \log_2(x + 7) = 5$?

- A {1}
- B $\{-\frac{25}{3}, 1\}$

17. Which is equal to $e^{\ln 3} + \ln e^4$?

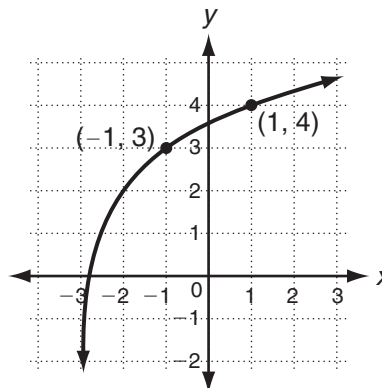
- A 7
- B 12

18. What could be the function shown in the graph?



- A $f(x) = -2^{x-3} + 1$
- B $g(x) = -2^{x-3} - 1$
- C $h(x) = 2^{3-x} + 1$

19. What could be the function shown in the graph?



- A $a(x) = \log_2(x - 3) + 2$
- B $a(x) = \log_2(x + 3) + 2$
- C $d(x) = 2\log_2(x + 2) + 3$

20. If the data below is from an exponential function, what is the value of a ?

x	3	5	7
y	8	a	18

- A 12
- B 12.5
- C 13

21. Evaluate $f(1)$ for $f(x) = \ln x$.

- A 0
- B 1

22. The data below is from an exponential function. What is the value of the constant ratio?

x	-1	0	1	2	3
y	2	4	8	16	32

- A 1
- B 2
- C 4

Answer Key Algebra 2

CHAPTER 7

Chapter Test Form A: Multiple Choice

- | | |
|-------|-------|
| 1. A | 12. A |
| 2. A | 13. A |
| 3. B | 14. B |
| 4. B | 15. A |
| 5. A | 16. A |
| 6. C | 17. A |
| 7. B | 18. B |
| 8. B | 19. B |
| 9. B | 20. A |
| 10. C | 21. A |
| 11. A | 22. B |