

Review: Chapter 5

1. Evaluate $f(x) = x^2 - 3x + 2$ for $f(-3)$.
2. Evaluate $g(x) = x^2 - 3$ for $g(x+3)$.
3. What is the domain of $f(x) = \sqrt{x+4}$?
4. What is the domain of $g(x) = \frac{x+4}{2x-14}$?
5. State if the following relation represents a function: $\{(0,1), (2,-5), (3,1), (5,0)\}$
6. If $f(x) = 2x - 5$ and $g(x) = x + 2$, determine $(f + g)(-7)$.
7. If $g(n) = n - 2$ and $f(n) = 4n + 3$, determine $(g \cdot f)(5)$.
8. If $f(x) = x + 3$ and $g(x) = 4x + 2$, determine $(f - g)(x)$.
9. Solve: $4^{x+2} = 256$.
10. Solve: $\left(\frac{1}{3}\right)^x = 81$.
11. Rewrite in exponential form: $\log_3 \frac{1}{9} = -2$
12. Rewrite in exponential form: $\log 100 = 2$
13. Rewrite in logarithmic form: $5^2 = 25$
14. Rewrite in logarithmic form: $4^{-3} = \frac{1}{64}$
15. Evaluate $\log_2 64$.
16. Evaluate $\log_6 \frac{1}{216}$.
17. Evaluate $\ln \sqrt[5]{e^2}$.

18. Solve $\log_3 x = 0$.
19. Solve $\log_2 k = -3$.
20. $\log_4(6b - 8) = 1$.
21. Graph $f(x) = 3^x$
22. Graph $f(x) = \log_4 x$.
23. How much should be invested at 3.5%, compounded monthly, if you want \$3500 in 4 years? Round answer to the nearest cent.
24. If \$250 is invested at 8%, compounded continuously, what will the value be in 10 years? Round answer to the nearest cent.

ANSWERS to Review: Chapter 5

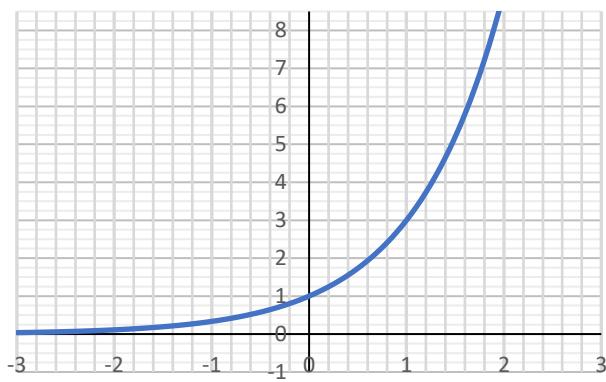
- 1) 20
- 2) $x^2 + 6x + 6$
- 3) $\{x \mid x \geq -4\}$ or $[-4, \infty)$
- 4) $\{x \mid x \neq 7\}$ or $(-\infty, 7) \cup (7, \infty)$
- 5) yes
- 6) -24
- 7) 69
- 8) $-3x + 1$
- 9) $x = 2$
- 10) $x = -4$
- 11) $3^{-2} = \frac{1}{9}$
- 12) $10^2 = 100$
- 13) $\log_5 25 = 2$
- 14) $\log_4 \frac{1}{64} = -3$
- 15) 6
- 16) -3
- 17) $\frac{2}{5}$

18) $x = 1$

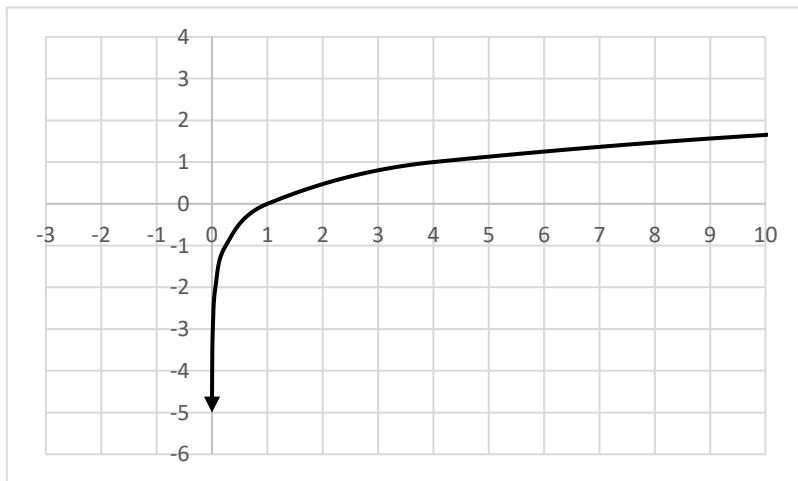
19) $k = \frac{1}{8}$

► 20) $b = 2$

21)



22)



► 23) \$3043.37

► 24) \$556.39