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 $g(x) = \dfrac{x+4}{2x-14}$?

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: $\left(\dfrac{1}{3}\right)^x = 81$.

11. Rewrite in exponential form: $\log_3 \dfrac{1}{9} = -2$

12. Rewrite in exponential form: $\log 100 = 2$

13. Rewrite in logarithmic form: $5^2 = 25$

14. Rewrite in logarithmic form: $4^{-3} = \dfrac{1}{64}$

15. Evaluate $\log_2 64$.

16. Evaluate $\log_6 \dfrac{1}{216}$.

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

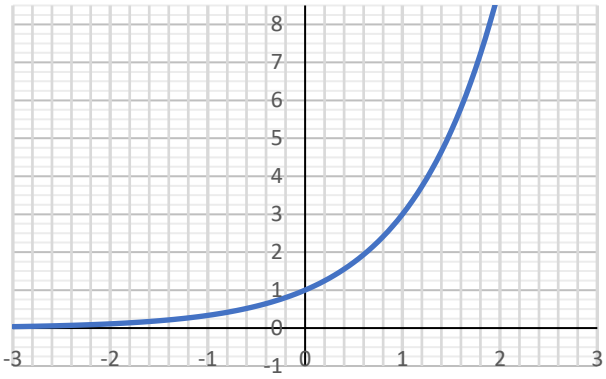
17) $\frac{2}{5}$

18) $x = 1$

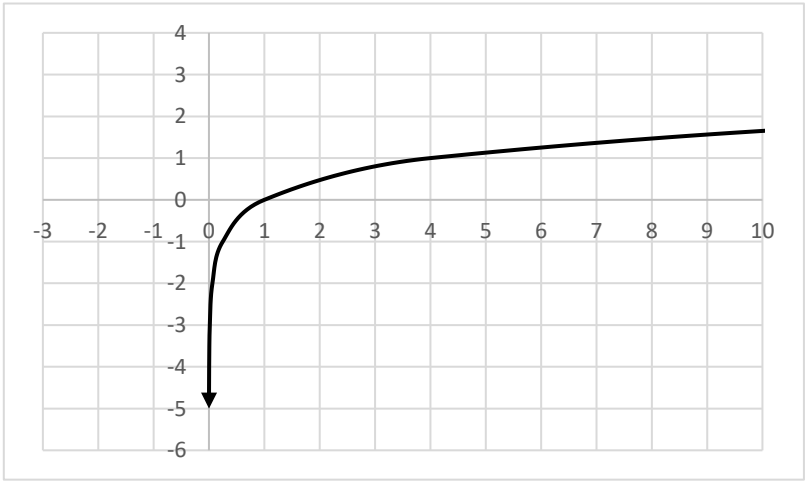
19) $k = \frac{1}{8}$

20) $b = 2$

21)



22)



23) $3043.37

24) $556.39