1. If $f(x) = 3^x$, then $f(4) =$

☐ 18 ☐ 81 ☐ 12 ☐ 7

2. If $f(x) = (\frac{1}{5})^x$, then $f(2) =$

☐ $\frac{2}{5}$ ☐ $\frac{1}{7}$ ☐ $\frac{1}{10}$ ☐ $\frac{1}{25}$

3. If $f(x) = 4^{3-x}$, then $f(5) =$

☐ 0.0625 ☐ 4 ☐ 0.125 ☐ 16

4. If $f(x) = e^{-x}$, then $f(0) =$

☐ e ☐ 0 ☐ $1/e$ ☐ 1

5. If $f(x) = \log_3(3x)$, then $f(1) =$

☐ 0 ☐ 9 ☐ 1 ☐ 3

6. What is the domain of $f(x) = \ln(x - 2e)$?

☐ $x > 2e$ ☐ $x < 2e$ ☐ $x \geq 2e$ ☐ $x \leq 2e$

7. What is the range of $f(x) = 3^{x+1}$?

☐ $y > 1$ ☐ $y < 1$ ☐ $y < 0$ ☐ $y > 0$

8. Solve $2^{4x-3} = 16$

☐ $x = 5/4$ ☐ $x = 3/4$ ☐ $x = 7/4$ ☐ $x = 11/4$

9. Solve $5^{2x} = 3$

☐ $x = \frac{\ln 3}{2 \ln 5}$ ☐ $x = \frac{\ln 5}{2 \ln 3}$ ☐ $x = \frac{\ln 3}{\ln 5}$ ☐ $x = \frac{\ln 5}{\ln 3}$

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10. Solve $\log(x+2) = 1/2$.

☐ $x = 2\sqrt{10}$ ☐ $x = \sqrt{10}+2$ ☐ $x = 2-\sqrt{10}$ ☐ $x = \sqrt{10}-2$

11. $\log_5(3x-1) - 2\log_5(x+4) + \log_5(7) =$

☐ $\log_5\left(\frac{2(x+4)}{7(3x-1)}\right)$ ☐ $\log_5\left(\frac{7(3x-1)}{(x+4)^2}\right)$

☐ $\log_5\left(\frac{(x+4)^2}{7(3x-1)}\right)$ ☐ $\log_5\left(\frac{7(3x-1)}{2(x+4)}\right)$

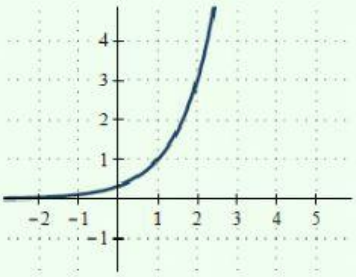
12. Which of the following represents the graph below?

☐ $y = 3^{x-1}$

☐ $y = 3^{1-x}$

☐ $y = 3^x - 1$

☐ $y = 1 - 3^x$



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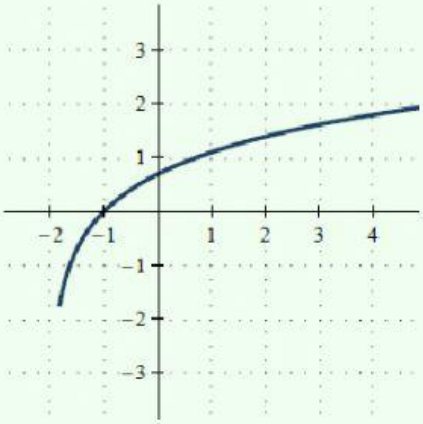
13. Which of the following represents the graph below?

☐ $y = \ln(x) + 2$

☐ $y = \ln(x) - 2$

☐ $y = \ln(x+2)$

☐ $y = \ln(x-2)$



14. What is the x-intercept of $f(x) = \log(3x-8)$?

☐ $(8/3, 0)$ ☐ $(3, 0)$ ☐ $(6, 0)$ ☐ $(-8, 0)$

15. If $f(x) = 7^{x-2} + 4$, then $f^{-1}(x) =$

☐ $\log_7(x-2)+4$ ☐ $\log_7(x+2)-4$ ☐ $\log_7(x+4)-2$ ☐ $\log_7(x-4)+2$

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