

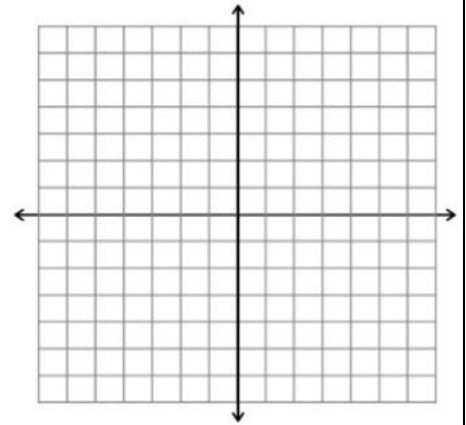
Math 1050 A4.5A Solving Log & Exponential Equations	Name
1. Find the solutions: $4^{x+1} = 64$	2. Find the solutions: $3^{2x-8} = 3^{5x+1}$
3. Find the exact solution of: $e^{-2x} = 7$	4. Find the exact solution of: $2^{1-x} = 3$
5. Find the exact solution of: $100(1.04)^{2t} = 300$	6. Find the exact solution of: $4 + 3^{5x} = 8$
7. Find the exact solution of: $\frac{50}{1+e^{-x}} = 4$	8. Solve the equation: $e^{2x} - 3e^x + 2 = 0$
9- Write the equation to fit the situation and then solve for the time.	
9. A man invests \$5000 in an account that pays 8.5% interest per year compounded quarterly. How long until he doubles the money he invested?	10. A 15 g sample of radioactive iodine has a half-life of 5.5 days. How long will a patient need to be quarantined so that it decays to 5 grams?
11. A sponge picks up 20 bacteria. The bacteria loves the sponge, so it doubles every 15 minutes. How long until there are 12,500 bacteria?	12. The polar bear population in a certain area are dying CONTINUOUSLY at an annual rate of 5.6% a year. If this certain area currently has 80 polar bears, how long until there are only 10 polar bears?

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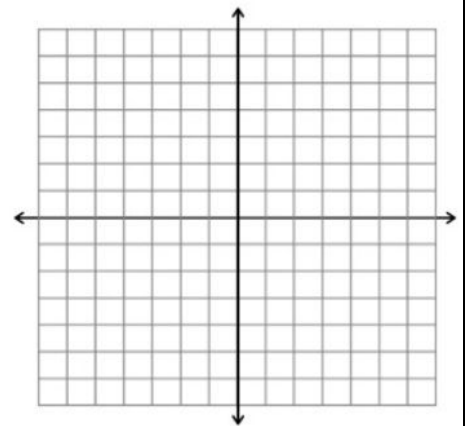
13. Japan has a population of 127 million in 2014. The population of Japan is declining at a rate of -0.2% every year. In what year will the population of Japan be 125 million?

14. Isolate the Log, and then Evaluate
 $2\log_2 x + 6 = 14$

15. Find the inverse of $f(x) = 3^{x+1}$
 Graph the function and the inverse.



16. Find the inverse of
 $f(x) = \frac{4x+17}{x+5}$
 then graph both the function and the inverse function.



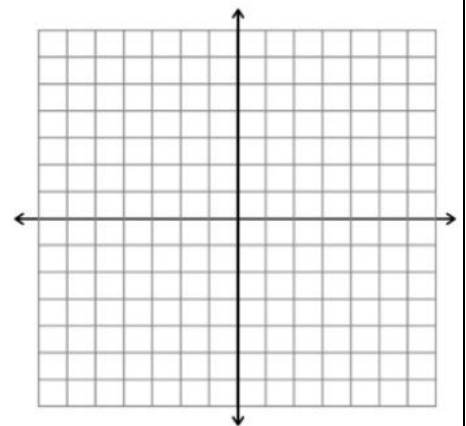
17. Graph the following and find their domains.

a. $f(x) = \log_2(x-4)$

Domain:

b. $f(x) = 1 - \log x$

Domain:



18. Graph the following

$$f(x) = \frac{2x^2 - 3x - 20}{x^2 + 5x - 6}$$

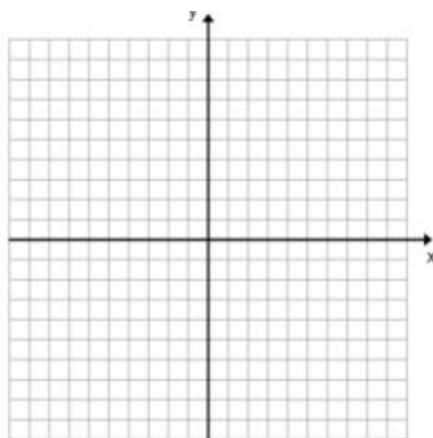
VA

HA

x-intercept(s)

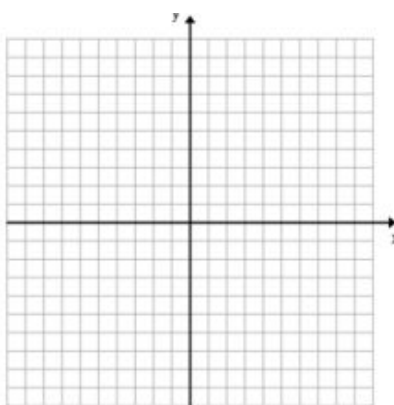
y-intercept(s)

Slant Asy



19. Find all zeros then graph:

$$f(x) = 3x^3 - 5x^2 - 8x - 2$$



20. Graph $f(x) = 3 - 10^{x-1}$

Domain:

Range

Asymptote:

