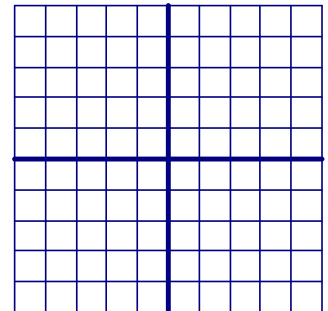


Advanced Math
Problem Solving #2
Distributed Practice

1. Solve for x given that $\log_4(x - 3) = \log_4(x + 3) = 2$.

2. E-coli bacteria can reproduce every 15 minutes. How long will it take for a population to go from 1000 cells to 64,000 cells?

3. Graph the following equation. $y = \frac{x^2 + 4x + 3}{x + 1}$. List all holes and asymptotes below.



4. Write the expanded form of a polynomial equation that possesses roots at $2i$, $-2i$, and 3 .

5. Determine the exact value of $\sin(15^\circ)$.

6. If θ is located in the 1st quadrant, and $\sin\theta = \frac{5}{13}$, determine the value of $\cos\theta$.

7. Determine all possible roots of the equation $x^3 - 64 = 0$.