

name: _____

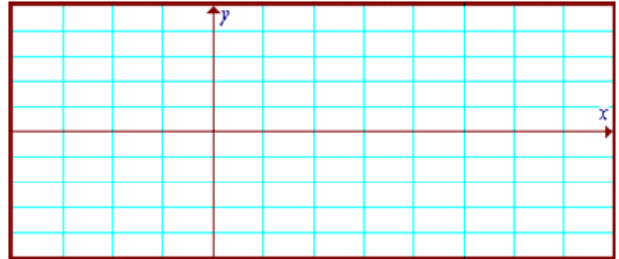
Assignment 6

Math621B

due January 17, 2022

1. Bonshaw is growing at a rate of 5% per year. If the current population is 340, how long will it take before it hits 500 people?

5. Graph $y = 3 \sin \frac{\pi}{2}(x + 1) - 1$



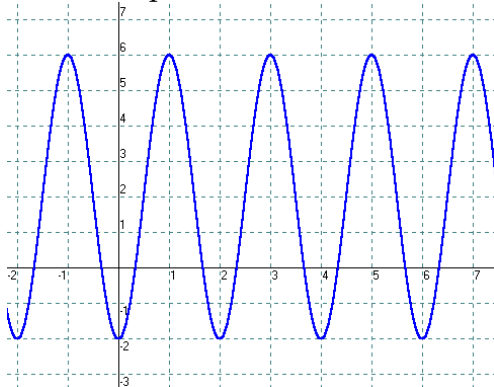
2. Write the equation you get when you start with $y = x^2$ and do vertical stretch of 3, a horizontal reflection, translations of 2 right and 4 up.

6. Solve $\log_3 x + \log_3(x - 6) = 3$

3. Jackmerius is taking 8 courses this year. How many ways can he select his block A, B, C, D, classes for first semester?

7. Find the doubling period for a type of bacteria that has increased from 3000 to 5000 in 40 minutes.

4. Write an equation for



8. Evaluate $3 \log_4 8 + \frac{1}{2} \log_4 2 - \frac{1}{2} \log_4 128$

9. Solve $5^{3x} = 9^{x-1}$

10. If 90 kg of Cobalt 60 decays to 3.9 kg in 24 years, what is the half life?