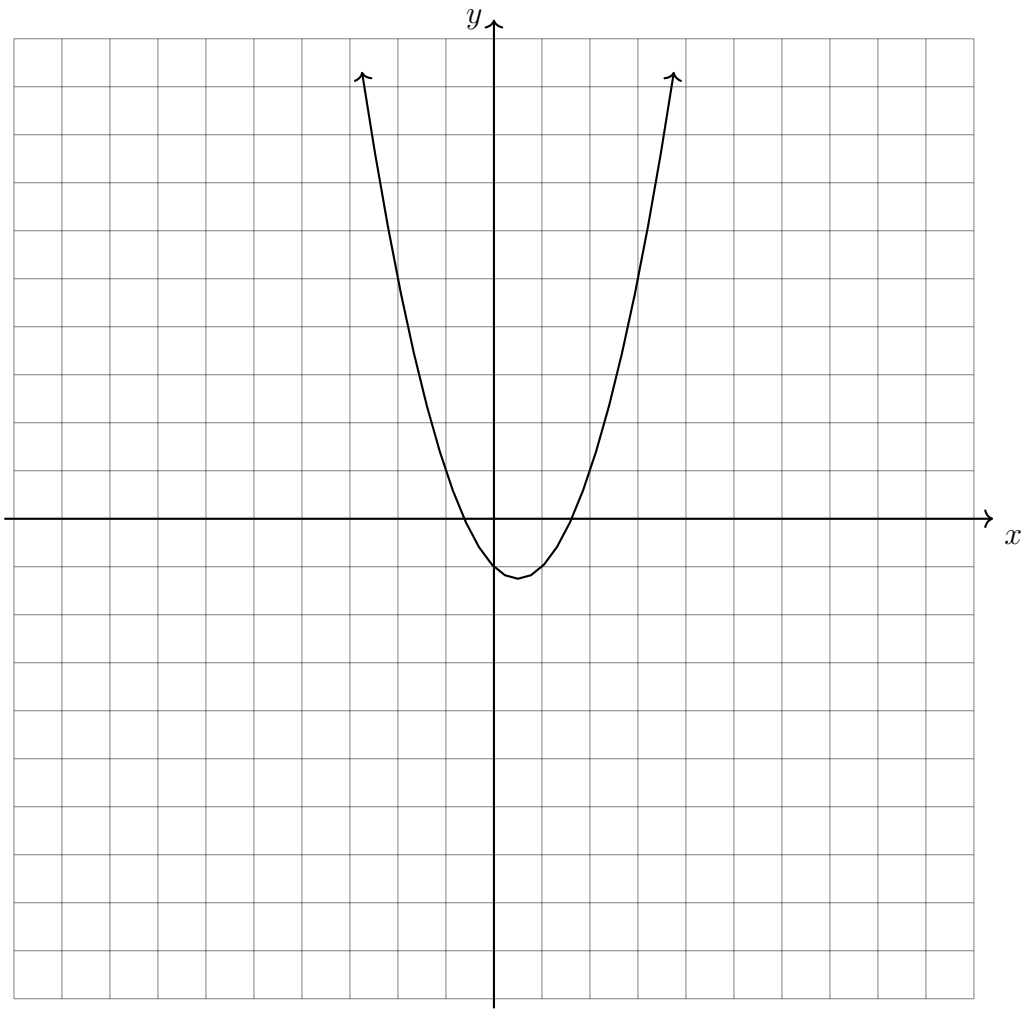
BECA / Dr. Huson / Regents Prep: Graphs First and last name:
13 November 2024 Section:

3.1 Do Now: Graphing quadratic systems

1. The quadratic of a system of equations is graphed. Add a graph of the linear equation. Mark the intersections as ordered pairs.

   $y = x^2 - x - 1$ $y = x + 2$

   What values of x satisfy the system of equations?



Make sure you can explain the meaning of the following terms: quadratic, linear, system of equations, solution, "satisfy", ordered pair, intersection.

2. Circle the equations that are an identities.

   (a) $x^2 + y^2 = (x + y)^2$

   (b) $x^2 - y^2 = x^2 - 2xy + y^2$

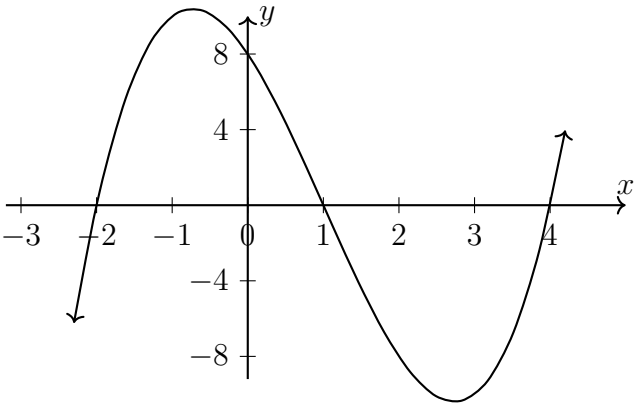
   (c) $x^3 - y^3 = (x + y)(x^2 - xy + y^2)$

   (d) $x^3 + y^3 = (x + y)(x^2 - xy - y^2)$

3. Write a recursive definition of the sequence $a_1 = -3$, $a_2 = -9$, $a_3 = -12$, $a_4 = -15, \ldots$

4. Write down the solutions to the equation $(2x - 7)(x - 5)(x - 1) = 0$

5. Graphed is $f(x) = x^3 - 6x^2 + 3x + 8$. Write the function in factored form.



6. Solve algebraically for x: $\dfrac{3}{x^2} + \dfrac{5}{x} = \dfrac{6}{x^2}$