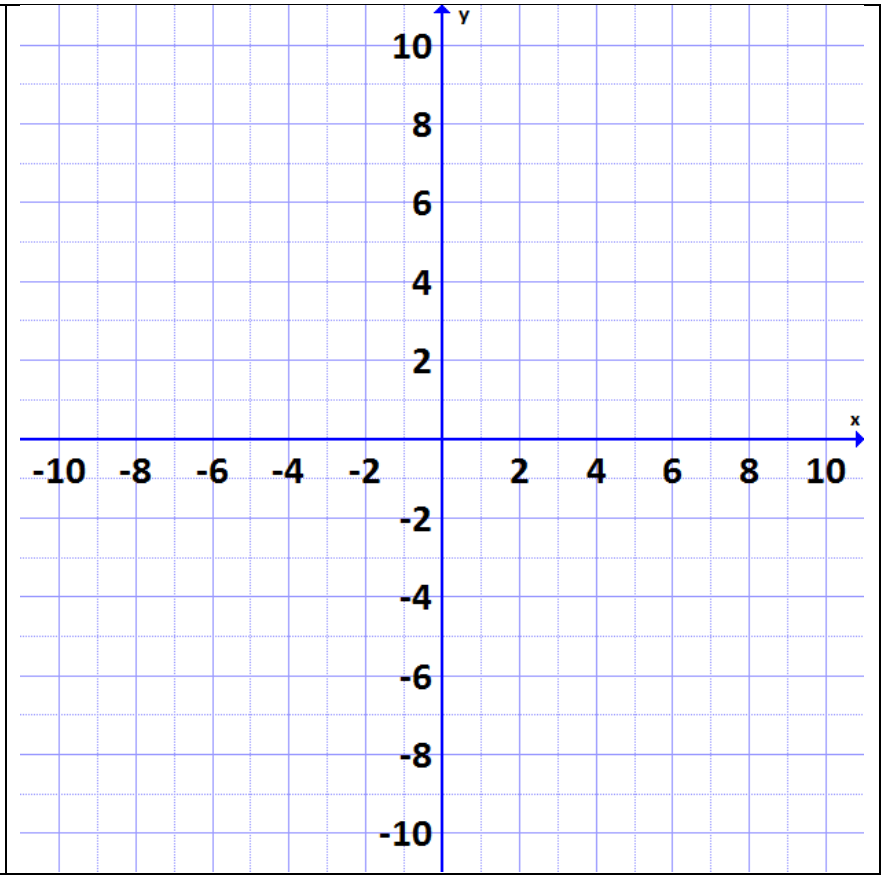
Quadratic Relations: Day 1 – Factored Form and Standard Form

What is your factored form equation? What is your matching standard form equation? Provide a sketch of your parabola on the set of axes provided.	

Factored Form: $y = a(x - r)(x - s)$ **Standard Form:** $y = ax^2 + bx + c$

1. Look at both of your equations.

   a. What is the value of *a* in your factored form equation?

   b. What is the value of *a* in your standard form equation?

   c. What are the values of r and s in your factored form equation?

   d. What are the values of b and c in your standard form equation?

   e. Do you notice any relationships between the values of r, s, b and c? Explain.

2. Walk around the room and write down 10 standard form equations and their corresponding factored form equations in the table provided below.
   Then, complete the table by filling in the values of a, r, s, b and c for each pair of equations.

Standard Form Equation $y = ax^2 + bx + c$	**Factored Form Equation** $y = a(x - r)(x - s)$	*a*	*r*	*s*	*b*	*c*

3. Look for potential relationships between r, s, b and c in the table above.
   Look back at your answer to question 1.e. Do you agree with what you said?
   Why or why not?

4. Talk to at least two other people about the relationship between r, s, b and c in the two forms of quadratic equation we have looked at. Do you agree? If not, what do they think the relationship might be?