This assignment is due in class on <mark>February 5</mark>, 2018. Please print this paper and complete the assignment. The graph MUST be drawn on the grid provided (make sure it passes through the right points!).

1. Find all solutions (including complex solutions) for the following equation:
$$(x^2 + x + 7)(x^2 + 2x - 24) = 0$$

2. Plot the real solutions on the x-axis of the grid on page 2.

3. Find the standard equation of the circle that has its center on the x-axis and passes through the two points plotted in the previous part. Plot the circle on the grid on page 2.

4. Algebraically find the points on the circle that have the x-coordinates equal to 2. Plot the point with the positive y-coordinate on the grid.

5. Find the slope and standard equation of the line passing though the center of the circle and the point plotted in the previous part. Draw the line on the grid.

6. Find the midpoint between the circle's center and the point plotted in the part 4.