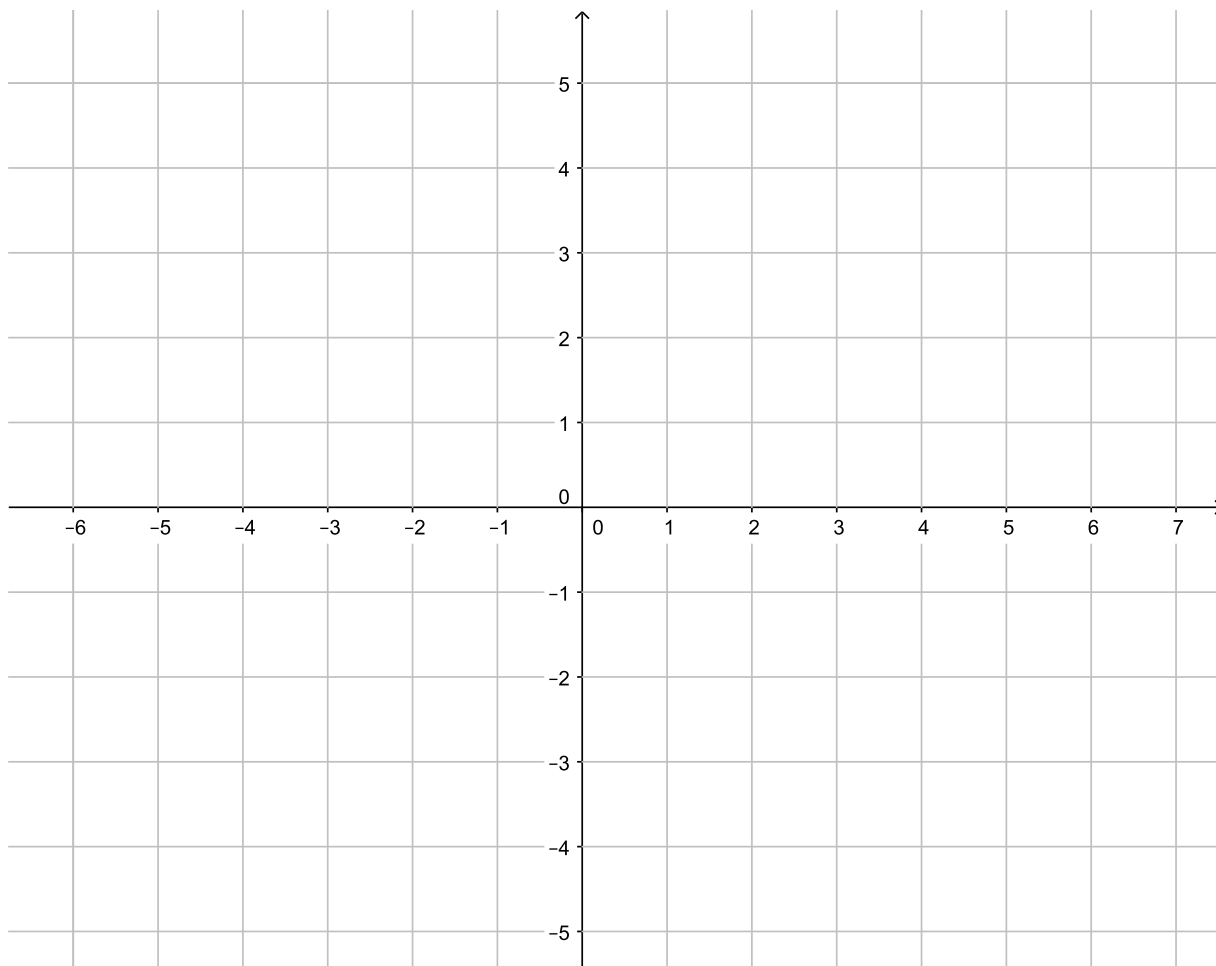




3. (4 points) Consider  $y' = x + y^2$ . Draw the isocline for the equation that corresponds to  $y' = 1$  and then draw ten tangent segments on this isocline that are in the slope field for  $y' = x + y^2$ . Now draw five more tangent segments that help to estimate the solution to the IVP  $y' = x + y^2$  if  $y(1) = 0$ . Show points used to calculate the slopes.



4. (4 points) Calculate  $I = \int_0^\pi e^{3ix} dx$ . Show work and write your answer in standard complex form  $a + bi$ .