## Instructions for Drawing point-wise and line-wise conics

(It may be best to give the line-wise instructions to the students, and then have them figure out the dual process.)

## Line-wise Conic

1) Find 20 points on line $x$.
2) From each one of these 20 points on x , draw a line passing through P .
3) With each one of these 20 lines on p , find where it intersects with line $\ell$.
4) From each one of these 20 points on $\boldsymbol{\ell}$, draw a line passing through Q .
5) With each one of these 20 lines on Q , find where it intersects with line $y$.
6) Draw the 20 connecting lines from each point on x to its corresponding point on $y$.

## Point-wise Conic

1) Draw 20 lines on point $X$.
2) With each one of these 20 lines on $X$, find where it intersects with line $p$.
3) From each one of these 20 points on $p$, draw a line passing through L .
4) With each one of these 20 lines on $L$, find where it intersects with line q.
5) From each one of these 20 points on $q$, draw a line passing through Y.
6) Find the 20 connecting points by finding the points of intersection of each line on X and its corresponding line on Y .
