

1. Construct a line. Construct a point on the line and label it X.
2. Select X and the line and Construct the Perpendicular Line.
3. Construct a point on the new perpendicular and label it P.
4. Slide X and investigate what happens to P. Trace or Construct the locus.
5. Suppose the equation of the original line is  $y = 2x - 3$  and a point is  $(-1,4)$ . Is that point on the line? If not, consider it P and write an equation of its locus (as in the above construction).
6. Suppose the equation of the original line is  $2x + 3y = 5$  and a point is  $(-1,4)$ . Is that point on the line? If not, consider it P and write an equation of its locus.