**Activity 3.3.4b Constructing Parallel Lines**

Our goal is to create parallel lines using a straight edge and a compass. We are given only a line *m* and a point *P*. We will create a line parallel to line *m* through point *P*. Try this construction on another sheet of paper or on the computer.

Note: If you use GeoGebra, it is easier to draw complete circles rather than arcs. If you use a compass and straightedge, you may prefer to draw only an arc that passes through or locates the named points.



1. Given line *m* and point *P.*



1. Choose any point *T* on line *m*. Draw line $\overleftrightarrow{TP}$. Let *C* be another point on *m*.
2. Now construct an angle congruent to $∠PTC$ with *P* as its vertex and one side along $\vec{TP}$. (Review Activity 2.7.8 for the specific steps.)
3. Prove that your construction produces a line parallel to line *m* through point *P*.