7-8 • Guided Problem Solving

Student Page 363, Exercise 16:

Draw $MN$ about 4 in. long. Then construct $JK$ two and one half times as long as $MN$.

Understand

1. How many times as long as $MN$ is $JK$?

2. What two constructions will you need to know how to perform to draw $JK$?

Plan and Carry Out

3. Draw $MN$ so that it is about 4 inches long.
4. Next, draw a ray with endpoint $J$ that looks at least two and one half times as long as $MN$.
5. Use your compass to mark a point on your ray that is exactly the length of $MN$ from $J$.
6. Now use your compass to mark a point the length of $MN$ away from the point you marked in Step 5.
7. Construct the bisector for $MN$. Use this to find half the length of $MN$.
8. Use your compass to mark endpoint $K$ half the length of $MN$ away from the point you marked in Step 6.

Check

9. What length is 2.5 times as long as 4 in.? Is your line segment about this long?

Solve Another Problem

10. Draw $AB$ about 1.5 in. long. Then construct $CD$ two and one half times as long as $AB$. 