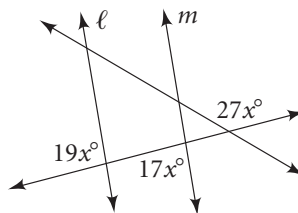


## 3-2 • Guided Problem Solving

### **GPS** Student Page 138, Exercise 24

Find the value of  $x$  for which  $\ell \parallel m$ .



### **Read and Understand**

1. Which lines are you trying to make parallel? \_\_\_\_\_
2. In relation to lines  $\ell$  and  $m$ , what do you call the other two lines? \_\_\_\_\_
3. What are you asked to find? \_\_\_\_\_

### **Plan and Solve**

4. Of the three angles shown, which two are likely to be related by theorems about angles formed by parallel lines and a transversal, given that you want to have  $\ell \parallel m$ ? \_\_\_\_\_
5. What must be the sum of the two angles in Step 4?  
\_\_\_\_\_
6. What must be the measure of an angle corresponding to the  $17x^\circ$  angle?  
\_\_\_\_\_
7. Since there is an angle that is both supplementary to the  $19x^\circ$  angle and corresponding to the  $17x^\circ$  angle, what can be said about the quantities in Steps 5 and 6? \_\_\_\_\_
8. Find  $x$ . \_\_\_\_\_

### **Look Back and Check**

9. From the figure, it appears that  $19x^\circ$  should be a little greater than  $90^\circ$ , and  $17x^\circ$  should be a little less than  $90^\circ$ . Verify this, using the value you found for  $x$ . \_\_\_\_\_

### **Solve Another Problem**

10. Repeat the above steps to find  $x$ , using  $11x^\circ$  instead of  $17x^\circ$  for the one angle. \_\_\_\_\_