

### Lesson Summary

A protractor, ruler, and setsquare are necessary tools to construct a parallelogram. A setsquare is the tool that gives a means to draw parallel lines for the sides of a parallelogram.

### Problem Set

1. Draw rectangle  $ABCD$  with  $AB = 5$  cm and  $BC = 7$  cm.
2. Use a setsquare, ruler, and protractor to draw parallelogram  $PQRS$  so that the measurement of  $\angle P$  is  $65^\circ$ ,  $PQ = 8$  cm, the measurement of  $\angle Q$  is  $115^\circ$ , and the length of the altitude to  $\overline{PQ}$  is 3 cm.
3. Use a setsquare, ruler, and protractor to draw rhombus  $ABCD$  so that the measurement of  $\angle A$  is  $60^\circ$ , and each side of the rhombus measures 5 cm.

The following table contains partial information for parallelogram  $ABCD$ . Using no tools, make a sketch of the parallelogram. Then, use a ruler, protractor, and setsquare to draw an accurate picture. Finally, complete the table with the unknown lengths.

	$\angle A$	$AB$	Altitude to $\overline{AB}$	$BC$	Altitude to $\overline{BC}$
4.	$45^\circ$	5 cm		4 cm	
5.	$50^\circ$	3 cm		3 cm	
6.	$60^\circ$	4 cm	4 cm		

7. Use what you know about drawing parallel lines with a setsquare to draw trapezoid  $ABCD$  with parallel sides  $\overline{AB}$  and  $\overline{CD}$ . The length of  $\overline{AB}$  is 3 cm, and the length of  $\overline{CD}$  is 5 cm; the height between the parallel sides is 4 cm. Write a plan for the steps you will take to draw  $ABCD$ .
8. Use the appropriate tools to draw rectangle  $FIND$  with  $FI = 5$  cm and  $IN = 10$  cm.
9. Challenge: Determine the area of the largest rectangle that will fit inside an equilateral triangle with side length 5 cm.