

Lesson 7: Drawing Parallelograms

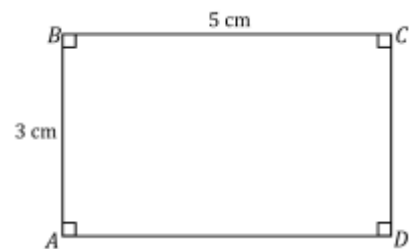
Classwork

Example 1

Use what you know about drawing parallel lines with a setsquare to draw rectangle $ABCD$ with dimensions of your choice. State the steps you used to draw your rectangle, and compare those steps to those of a partner's.

Example 2

Use what you know about drawing parallel lines with a setsquare to draw rectangle $ABCD$ with $AB = 3$ cm and $BC = 5$ cm. Write a plan for the steps you will take to draw $ABCD$.



Example 3

Use a setsquare, ruler and protractor to draw parallelogram $PQRS$ so that the measurement of $\angle P = 50^\circ$, $PQ = 5$ cm, the measurement of $\angle Q = 130^\circ$, and the altitude to PQ is 4 cm.

Exercise 1

Use a setsquare, ruler, and protractor to draw parallelogram $DEFG$ so that the measurement of $\angle D = 40^\circ$, $DE = 3$ cm, the measurement of $\angle E = 140^\circ$, and the altitude to DE is 5 cm.

Example 4

Use a setsquare, ruler and protractor to draw rhombus $ABCD$ so that the measurement of $\angle A = 80^\circ$, the measurement of $\angle B = 100^\circ$, and each side of the rhombus measures 5 cm.

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 $\angle P = 65^\circ$, $PQ = 8$ cm, $\angle Q = 115^\circ$, and the altitude to PQ is 3 cm.
3. Use a setsquare, ruler and protractor to draw rhombus $ABCD$ so that the measurement of $\angle A = 60^\circ$, and each side of the rhombus measures 5 cm.

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

	$\angle A$	AB	Altitude to AB	BC	Altitude to BC
4.	45°	5 cm		4 cm	
5.	50°	3 cm		3 cm	
6.	60°	4 cm	4 cm		

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