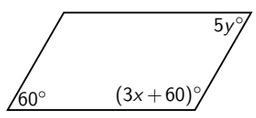
Proving Parallelograms

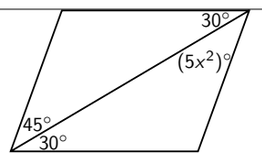
Theorems

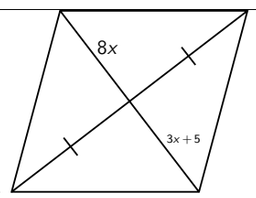
1. If both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.
2. If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram.
3. If both pairs of opposite angles in a quadrilateral are congruent, then the quadrilateral is a parallelogram.
4. If both pairs of opposite sides are parallel, then the quadrilateral is a parallelogram.

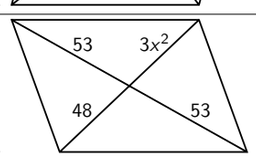
Practice Exercises

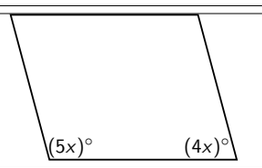
Find the values of x and y that ensure each quadrilateral is a parallelogram.

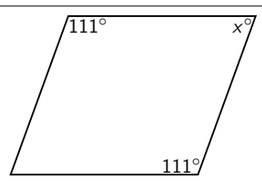
1. 

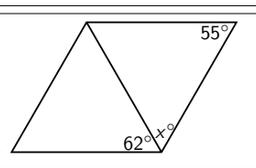
2. 

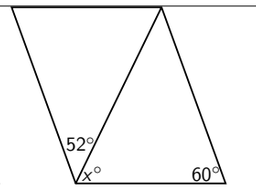
3. 

4. 

5. 

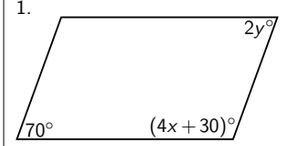
6. 

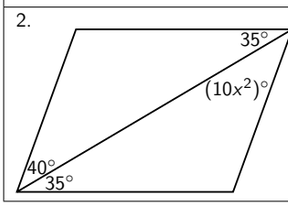
7. 

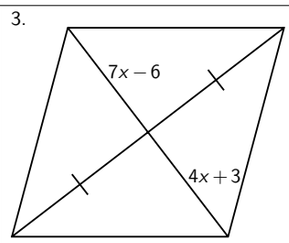
8. 

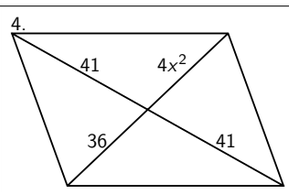
Problem Set

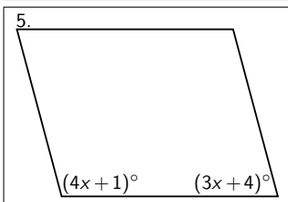
Find the values of x and y that ensure each quadrilateral is a parallelogram.

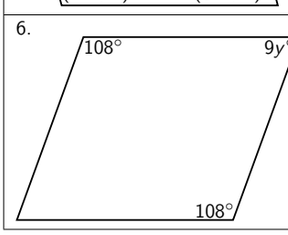
1. 

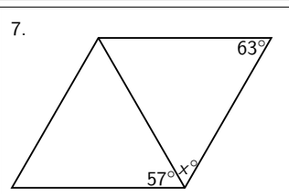
2. 

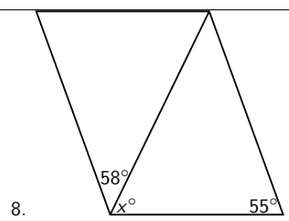
3. 

4. 

5. 

6. 

7. 

8. 

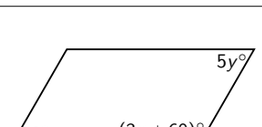
Proving Parallelograms

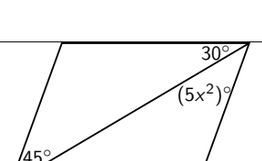
Theorems

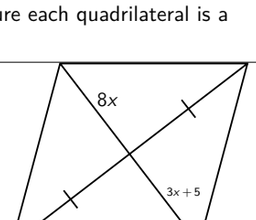
1. If both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.
2. If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram.
3. If both pairs of opposite angles in a quadrilateral are congruent, then the quadrilateral is a parallelogram.
4. If both pairs of opposite sides are parallel, then the quadrilateral is a parallelogram.

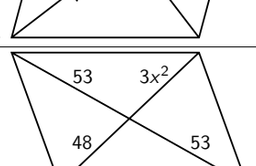
Practice Exercises

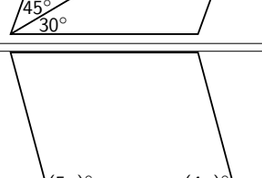
Find the values of x and y that ensure each quadrilateral is a parallelogram.

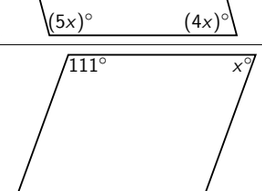
1. 

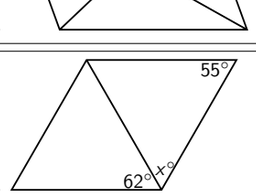
2. 

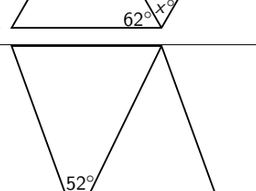
3. 

4. 

5. 

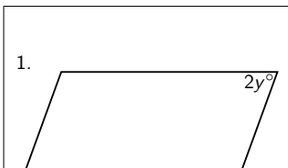
6. 

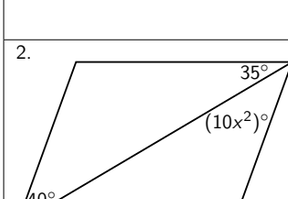
7. 

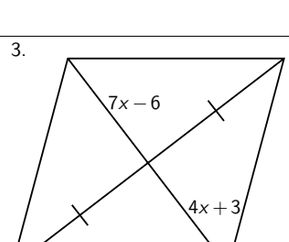
8. 

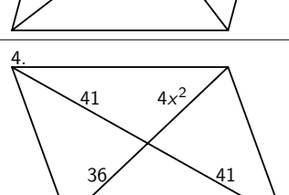
Problem Set

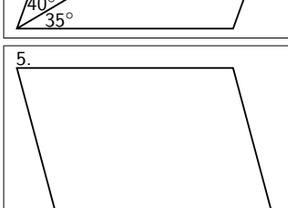
Find the values of x and y that ensure each quadrilateral is a parallelogram.

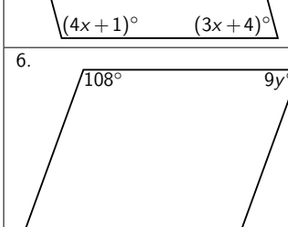
1. 

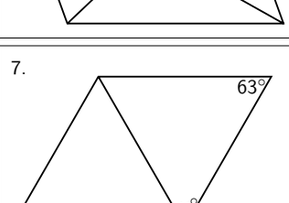
2. 

3. 

4. 

5. 

6. 

7. 

8.