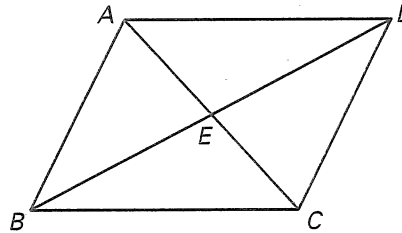


Practice B

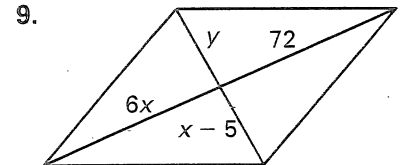
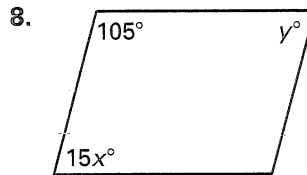
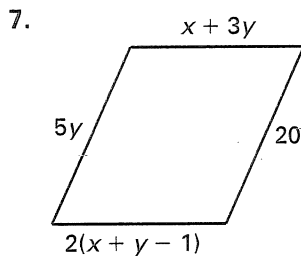
For use with pages 338–346

Decide whether each piece of given information alone is sufficient to prove that quadrilateral $ABCD$ is a parallelogram.

1. E is the midpoint of \overline{AC} and \overline{BD} .
2. $m\angle ABC + m\angle BCD = 180^\circ$
3. $\overline{AB} \parallel \overline{DC}$ and $\overline{BC} \cong \overline{DA}$
4. $\angle ABC \cong \angle ADC$, and $\angle BAD \cong \angle BCD$
5. $\triangle ABE \cong \triangle DCE$
6. $\triangle ABE \cong \triangle CDE$



What value of x and y will make the polygon a parallelogram?



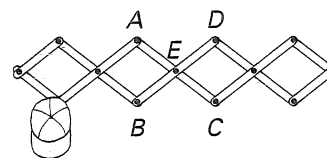
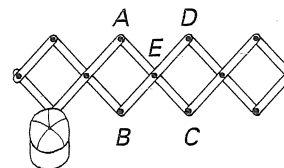
Prove that the points represent the vertices of a parallelogram. Use a different method for each exercise.

10. $A(2, -1), B(1, 3), C(6, 5)$, and $D(7, 1)$

11. $A(-2, -4), B(1, 2), C(2, 10)$, and $D(-1, 4)$

Use the diagram of the adjustable hat rack at the right to answer the following.

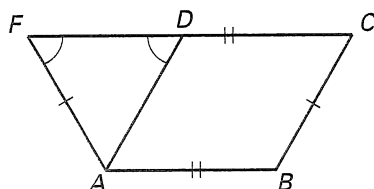
12. Draw the quadrilateral $ABCD$.
13. If the hat rack were expanded outward, would $ABCD$ still be a parallelogram? Explain.



Write a two-column or a paragraph proof.

14. Given: $\overline{AB} \cong \overline{CD}, \overline{BC} \cong \overline{AF}$
 $\angle AFD \cong \angle ADF$

Prove: $ABCD$ is a parallelogram.



15 Given: $\triangle RQP \cong \triangle ONP$

R is the midpoint of \overline{MQ} .

Prove: $MRON$ is a parallelogram.

