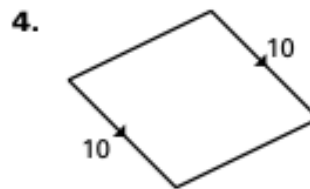
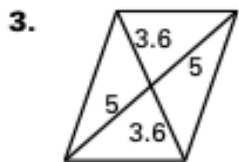
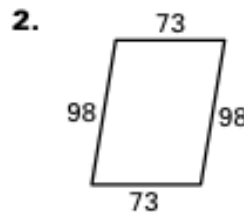
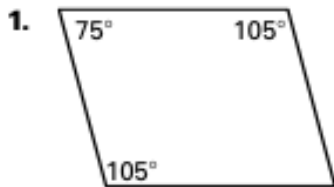


Honors Geometry

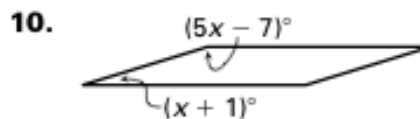
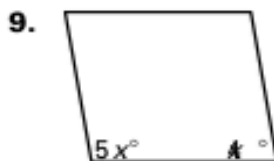
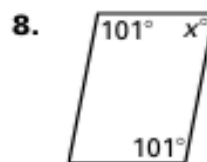
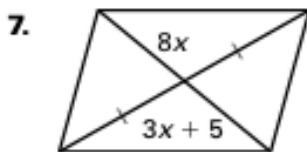
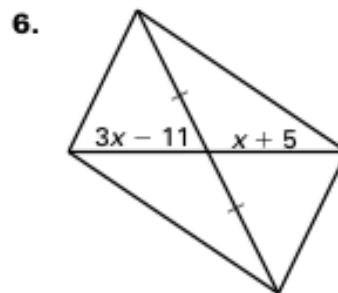
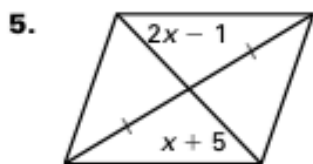
Worksheet 8.3

Name _____

What theorem can you use to show that the quadrilateral is a parallelogram?

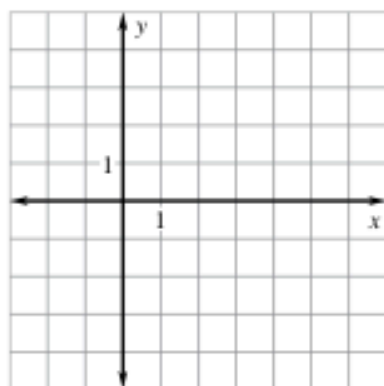


For what value of x is the quadrilateral a parallelogram?

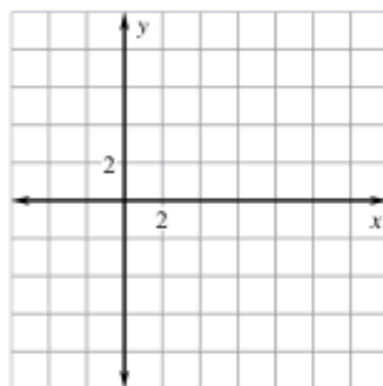


The vertices of quadrilateral $ABCD$ are given. Draw $ABCD$ in a coordinate plane and show that it is a parallelogram.

11. $A(-2, -3), B(0, 4), C(6, 4), D(4, -3)$

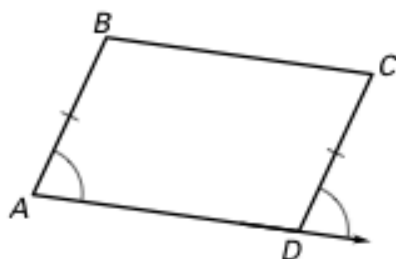


12. $A(-3, -4), B(-1, 2), C(7, 0), D(5, -6)$



Describe how to prove that $ABCD$ is a parallelogram.

13.



14.



15. Three vertices of $\square ABCD$ are $A(-1, 4), B(4, 4)$, and $C(11, -3)$. Find the coordinates of point D .

16. **History** The diagram shows a battering ram which was used in ancient times to break through walls. A log is suspended on ropes of equal length (\overline{GF} and \overline{HJ}). The log swings, causing quadrilateral $FGHJ$ to shift. In the diagram, $\overline{GH} \cong \overline{FJ}$ and \overline{GH} is parallel to the ground.

- Identify $FGHJ$. Explain.
- Explain why the log is always parallel to the ground.

