LESSON 10-1

Slope and Parallel Lines

Practice and Problem Solving: A/B

For Problems 2-6, Figure *JKLM* has as its vertices the points *J*(4, 4), *K*(2, 1), *L*(–3, 2), and *M*(–1, 5).

Find the slope of each side of JKLM.

2. $\overline{JK}$ 3. $\overline{KL}$ 4. $\overline{LM}$ 5. $\overline{MJ}$

6. Is *JKLM* a parallelogram? Explain your reasoning.

Write the equation of the line that is parallel to the graph of the given equation and that passes through the given point.

11. $y = -6x + 4$; (–2, 3) 12. $y = x$; (7, –2)

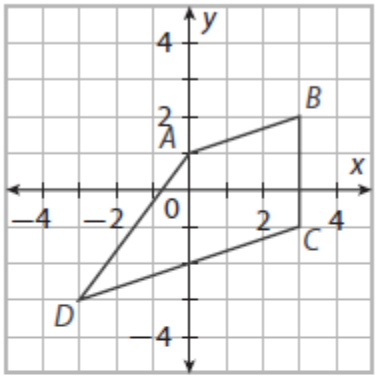
13.Write an equation of the line passing through point $P(-1, -4)$ **that is parallel to** $y = -6x + 8.$

14.Write an equation of the line passing through point $P(-1, 3)$ **that is perpendicular to** $y = 4x - 7.$

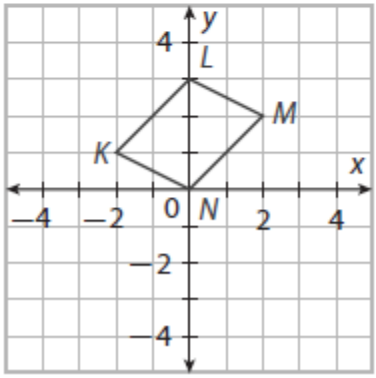
15.Quadrilateral *ABCD* has vertices *A*(–1, 5), *B*(4, 0), *C*(1, –5), and *D*(–5, 1). Calculate the slopes of the sides, and then use your results to explain whether *ABCD* is or is not a parallelogram.

Show that each figure is the given type of quadrilateral.

2. Show that *ABCD* is a trapezoid.

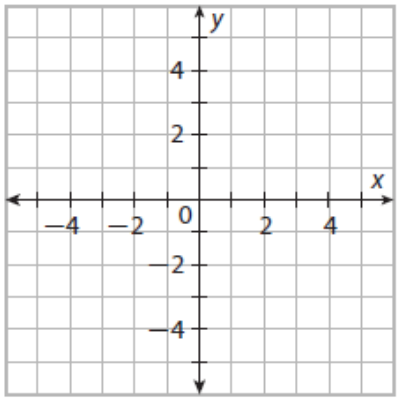


3. Show that *KLMN* is a parallelogram.

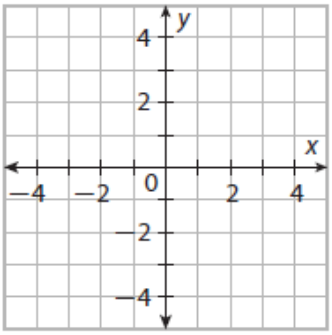


Find the coordinates of the missing vertex in each parallelogram. Use slopes to check your answer.

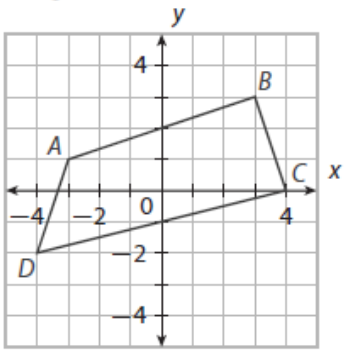
4. ▱*ABCD* with vertices $A(3, -3)$, $B(-1, -2)$, and $D(5, -1)$



5. ▱*STUV* with vertices $S(-3, -1)$, $T(-1, 1)$ and $V(0, 0)$



6. Show that quadrilateral *ABCD* is *not* a trapezoid.



7. Show that quadrilateral *FGHJ* is a trapezoid, but is not a parallelogram.