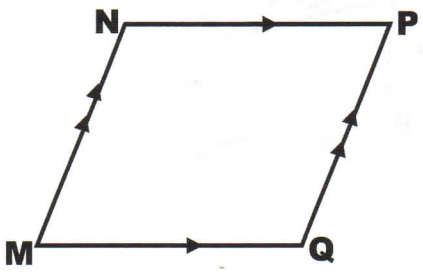
NAME _____ DATE _____ PERIOD _____

Parallelograms Practice

1. **a)** The parallelogram at the right has four vertices. Name them.



b) Name the parallelogram. Use the appropriate symbol.

c) Name the opposite sides of ▱MNPQ.

d) Name the opposite angles of ▱MNPQ.

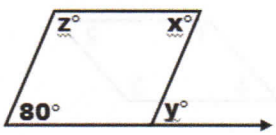
e) Name the consecutive angles of ▱MNPQ.

2. If ABCD is a parallelogram, $m\angle A = x°$ and $m\angle D = (2x - 3)°$, find the value of 'x'.

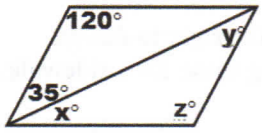
3. XYZW is a parallelogram with diagonals $\overline{XZ}$ and $\overline{YW}$ that intersect at point A. If XA = 3m and ZA = 5m – 4, and YW = 10m, find 'm'.

For each parallelogram, find the values of 'x', 'y', and 'z'.

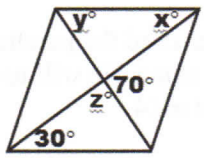
4.



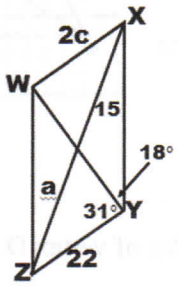
5.



6.



7. WXYZ is a parallelogram. $m\angle ZWX = b°$ and $m\angle WXY = d°$. Find the values of 'a', 'b', 'c', and 'd'.



a = _____

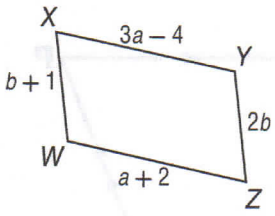
b = _____

c = _____

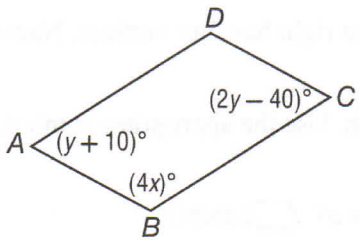
d = _____

Find the value of each variable.

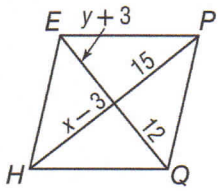
8.



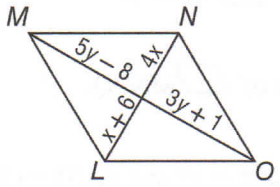
9.



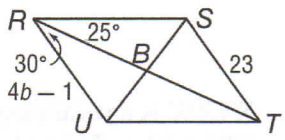
10.



11.



Use $\square RSTU$ to find each measure or value.



12. $m\angle RST =$ _____

13. $m\angle STU =$ _____

14. $m\angle TUR =$ _____

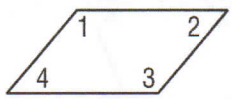
15. $b =$ _____

COORDINATE GEOMETRY Find the coordinates of the intersection of the diagonals of $\square PRYZ$ with the given vertices.

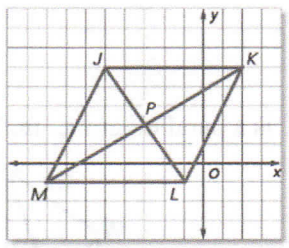
16. $P(2, 5)$, $R(3, 3)$, $Y(-2, -3)$, $Z(-3, -1)$

17. $P(2, 3)$, $R(1, -2)$, $Y(-5, -7)$, $Z(-4, -2)$

18. CONSTRUCTION Mr. Rodriquez used the parallelogram at the right to design a herringbone pattern for a paving stone. He will use the paving stone for a sidewalk. If $m\angle 1$ is 130, find $m\angle 2$, $m\angle 3$, and $m\angle 4$.



19. Use the distance formula to determine if the diagonals in the diagram at the right are congruent.



20. Use the slope formula to determine if the consecutive sides in the diagram at the right are perpendicular.

21. $\square$ABCD has vertices A(-3, 5), B(1, 2), and C(3, -4). Determine the coordinates of vertex D if it is located in Quadrant III.