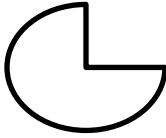


State whether the figure is a polygon; if it is a polygon, state whether the polygon is convex or concave.

HINT: No curves, no gaps, and no overlaps!

1.



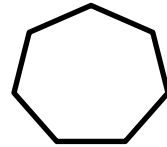
2.



3.



4.



Find the indicated measures of the polygon.

HINT: For interior angles use $(n - 2)180$ and for exterior angles use 360° .

5. Find the **SUM** of the measures of the interior angles of a octagon.

6. Find the **SUM** of the measures of the interior angles of a pentagon.

7. Find the **SUM** of the measures of the exterior angles of a 24-gon.

8. Find the **SUM** of the measures of the exterior angles of a hexagon.

9. Find the measure of **EACH** interior angle of a regular decagon.

10. Find the measure of **EACH** interior angle of a regular nonagon.

11. Find the measure of **EACH** exterior angle of a heptagon.

12. Find the measure of **EACH** exterior angle of a 18-gon.

13. How many sides does a regular polygon have, if the measure of an interior angle is 108° ?

14. How many sides does a regular polygon have, if the measure of an interior angle is 60° ?

Name: _____

Date: _____ Period: ____

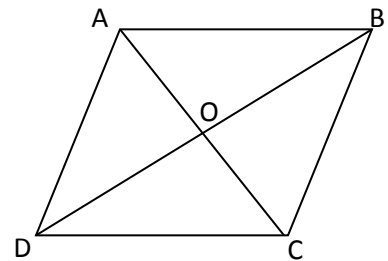
Parallelograms!

If a quadrilateral is a parallelogram then....

- 15. opposite sides are _____ and _____
- 16. opposite angles are _____
- 17. diagonals _____
- 18. consecutive angles are _____

ABCD is a parallelogram. $m\angle ABC = 40^\circ$, $AB = 12$, and $CO = 8$.

- 19. $m\angle BAD =$ _____
- 20. $DC =$ _____
- 21. $m\angle BCD =$ _____
- 22. $AO =$ _____



State whether each conditional statement is true. Write the converse of each conditional statement and state whether it is true.

- 23. If a parallelogram is a square, then it is a rhombus.
- 24. If a parallelogram is a square, then it is a rectangle.
- 25. If a quadrilateral is a rhombus, then it is a parallelogram.

If a parallelogram is a rhombus then

- 26. all 4 sides are _____
- 27. diagonals are _____
- 28. diagonals bisect _____

Name: _____

Date: _____ Period: ____

If a parallelogram is a rectangle then

29. if it has 4 _____ angles

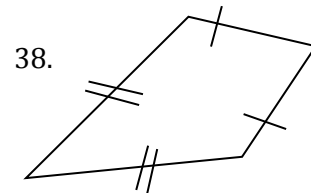
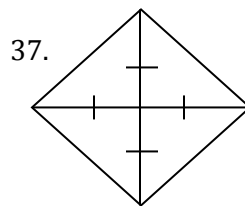
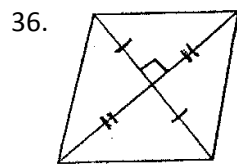
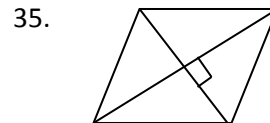
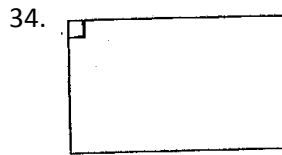
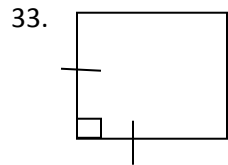
30. diagonals are _____

If a parallelogram is a square then

31. if all 4 sides are _____

32. if it has 4 _____ angles

Identify each parallelogram (rhombus, rectangle, square or parallelogram). Use the BEST fit.



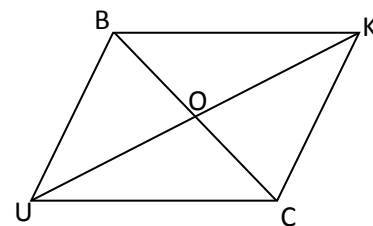
BUCK is a parallelogram with diagonals intersecting at O. Use the given information to identify the BEST type of parallelogram (parallelogram, rectangle, rhombus, or square) that the information describes.

39. $\overline{BU} \perp \overline{UC}$, $\overline{BU} \cong \overline{BK}$ _____

40. $\overline{BO} \cong \overline{CO}$, $\overline{UO} \cong \overline{KO}$ _____

41. $\overline{BC} \cong \overline{UK}$ _____

42. $\overline{BC} \perp \overline{UK}$ _____



Name: _____

Date: _____ Period: ____

Match the properties of a quadrilateral with all of the types of quadrilateral which have that property.

43. The diagonals are congruent.

44. Both pairs of opposite sides are congruent.

45. Both pairs of opposite sides are parallel.

46. All angles are congruent.

47. All sides are congruent.

48. Diagonals bisect the angles.

A. Parallelogram

B. Rectangle

C. Rhombus

D. Square

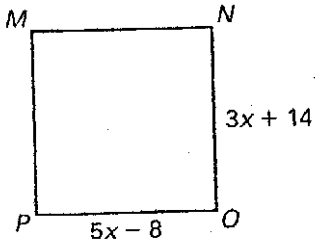
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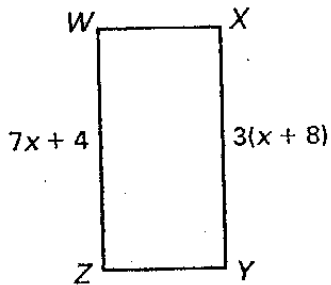
Algebra!

58. Solve for x.

MNOP is a square.



59. Solve for x.



61. Show that ABCD is a parallelogram by showing one pair of opposite sides CONGRUENT and PARALLEL.

Distance Formula: $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ Slope Formula: $\frac{y_2 - y_1}{x_2 - x_1}$

