

Complete the statements below:

- 1) The diagonals of a rhombus are _____ to each other.
- 2) Consecutive angles in a parallelogram are always _____.
- 3) The diagonals of a parallelogram always _____ each other.
- 4) Opposite angles in a parallelogram are always _____.
- 5) Opposite sides of a parallelogram are always _____ and _____.
- 6) The diagonals of a rectangle are _____ to each other.

7) Circle the statement(s) that is/are ALWAYS true.

For any square _____.

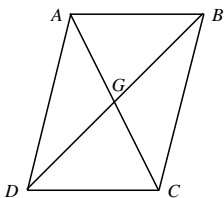
- A) all the angles in a square are right angles
- B) the diagonals are parallel
- C) consecutive angles are complementary
- D) the diagonals are perpendicular and congruent
- E) one pair of opposite sides is larger than the other one
- F) opposite angles are congruent
- G) the diagonals bisect each other

- 8) Find the sum of the measures of the interior angles in the figure. _____

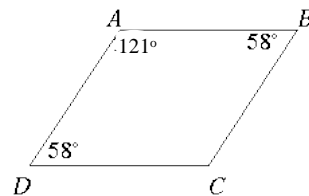


- 9) Given the following, determine whether quadrilateral $ABCD$ must be a parallelogram. **Justify your answer.**

G is the midpoint of AC and BD .



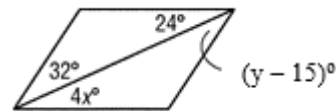
- 10) Is quadrilateral $ABCD$ a parallelogram? **Explain your answer briefly.** (The figure may not be drawn to scale.)



- 11) Find the measure of the missing angle. _____



- 12) Find x and y so that $ABCD$ will be a parallelogram. $x =$ _____; $y =$ _____



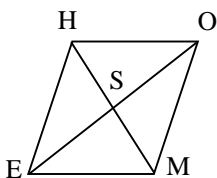
- 13) $ABCD$ is a rectangle with diagonals AC and BD .
If $AC = 5x + 40$ and $BD = 80$, **find** x _____.

14) True/False: Circle the correct answer.

- A) A square is always a rectangle. True or False
 B) The diagonals of a parallelogram always bisect a pair of opposite angles. True or False
 C) A rhombus is always a square. True or False

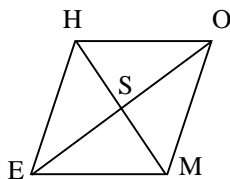
- 15) Refer to **rhombus** HOME below.

- A) If $OM = 9$ and $EO = 12$,
then find SE _____

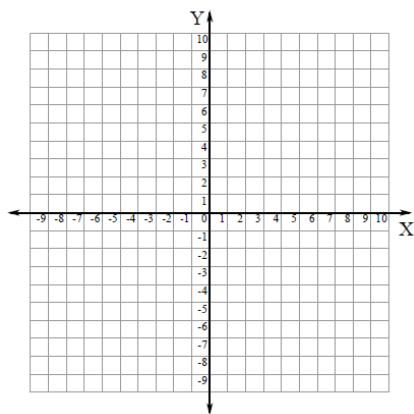


- B) If $m\angle OHE = 88^\circ$, then find:

- A) $m\angle OME$ _____
 B) $m\angle HOM$ _____
 C) $m\angle OMS$ _____
 D) $m\angle ESM$ _____

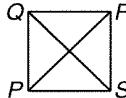


- 16) Indicate whether the parallelogram with coordinates $P(-4, -5)$ $Q(1, -5)$ $R(-2, -1)$ $S(-7, -1)$ is either a rhombus, a rectangle, or a square. Show your work for full credit.



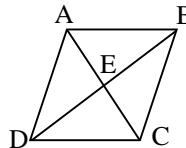
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- 17) Find $m\angle PQS$ in **square** PQRS. _____

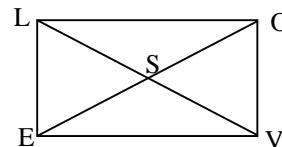


- 18) In rhombus ABCD below, $AE=6$, $EB=8$.

Find AB . _____



- 19) In **rectangle** LOVE below,
if $m\angle LEO = (3v + 10)^\circ$ and $m\angle VEO = (6v - 19)^\circ$,
find v _____



Extra credit

- 20) Refer to **parallelogram** SORT. Show all work.

- A) Solve for x _____ B) Solve for y _____
 C) Solve for t _____ D) Find $m\angle R$ _____

