

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.

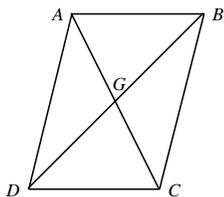
For any square _____.

- 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

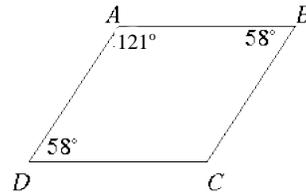
- 8) A carpenter needs to cut rectangular pieces of wood to make a table. How can he make sure that the wood pieces he is going to cut are rectangular in shape? **Justify your reasoning.** _____
- _____
- _____
- _____

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

G is the midpoint of \overline{AC} and \overline{BD} .

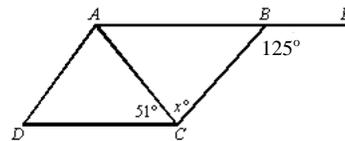


- 10) Is quadrilateral $ABCD$ a parallelogram? **Explain your answer briefly.** (The figure may not be drawn to scale.)
- _____
- _____
- _____

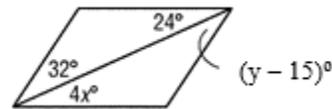


- 11) $ABCD$ is a parallelogram. Find the value of x and **explain your reasoning.** (The figure may not be drawn to scale.)

$x =$ _____; *because* _____



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



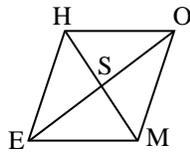
- 13) $ABCD$ is a rectangle with diagonals AC and BD .
If $AC = 5x + 40$ and $BD = 80$, find x _____.

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.

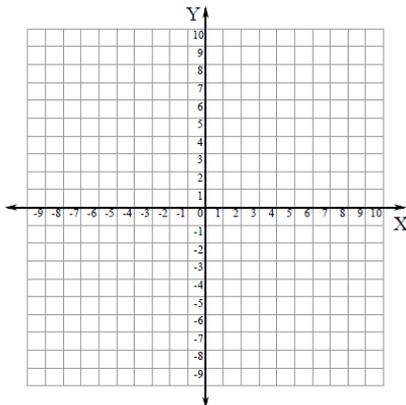
- A) If $OM = 9$ and $EO = 12$,
then find SM _____



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

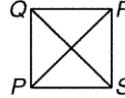
- A) $m\angle OME$ _____
 B) $m\angle HOM$ _____
 C) $m\angle OMS$ _____
 D) $m\angle ESM$ _____

- 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.



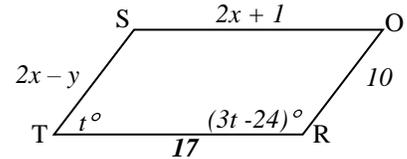
Type: _____

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

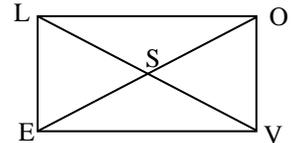


- 18) Refer to **parallelogram** SORT. Show all work.

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

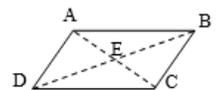


- 19) In **rectangle** LOVE below,
If $m\angle LEO = (3v + 10)^\circ$ and $m\angle VEO = (6v - 19)^\circ$,
find v _____



- 20) **Given:** and $\angle BDA \cong \angle DBC$

Prove: $ABCD$ is a parallelogram.



Write the letter of the correct reason next to each statement. Use the reasons that follow the table. There will be extra ones.

Statements	Answers
1. $\overline{AE} \cong \overline{EC}$ and $\angle BDA \cong \angle DBC$	
2. $\angle AED \cong \angle CEB$	
3. $\triangle AED \cong \triangle CEB$	
4. $\overline{AD} \cong \overline{CB}$	
5. $\overline{AD} \parallel \overline{CB}$	
6. $ABCD$ is a parallelogram	

- A) Given B) $ASA \cong$ C) $AAS \cong$ D) CPCTC E) $SAS \cong$
 F) Alternate Interior Angles Converse Theorem
 G) Vertical Angles Theorem
 H) One pair of opposite sides is both \cong and parallel