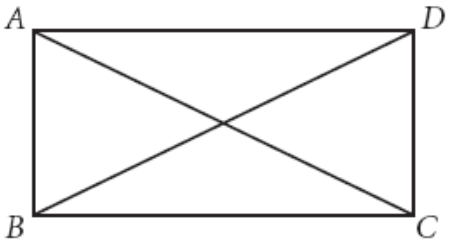
Name: _____

Rectangles, Rhombi, and Squares

1) Determine whether *ABCD* is a rectangle and justify your answer. If not enough information is given, write "cannot be determined."



1) *AB* = 3, *BC* = 4, and *AC* = 6.

2) *AB* = 3, *BC* = 4, *DA* = 4, and *AC* = 5.

3) *AB* = 3, *BC* = 4, *CD* = 3, *DA* = 4, and *AC* = *BD*.

2) In the diagram, *EFGH* is a rectangle. What is the value of *y*?

3) If PQRS is a rectangle and M is the midpoint of $\overline{RS}$, prove that $\overline{PM} \cong \overline{QM}$

In right triangle ABC, the midpoint of the hypotenuse $\overline{AB}$ is M and the midpoints of the legs are P and Q. Prove that quadrilateral PMQC is a rectangle.

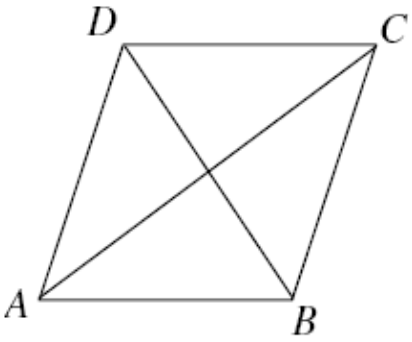
4) In right triangle ABC, the midpoint of the hypotenuse $\overline{AB}$ is M, the midpoints of $\overline{BC}$ is P, and the midpoint of $\overline{CA}$ is Q. D is a point on $\overline{PM}$ such that PM = MD.

1) Prove that QADM is a rectangle.

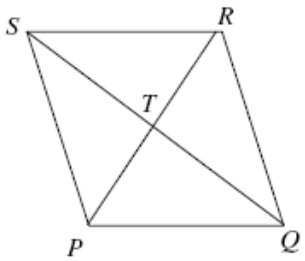
2) Prove that $\overline{CM} \cong \overline{AM}$.

3) Prove that M is equidistant from the vertices of $\triangle ABC$.

5) *ABCD* is a rhombus. If $m\angle ADB = 27$ find $m\angle ADC$.



6) Use rhombus *PQRS* and the given information to find each value.



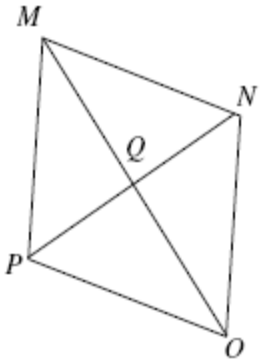
1) If *ST* =13, find *SQ*.

2) If $m\angle PRS$ =17, find $m\angle QRS$.

3) Find $m\angle STR$.

4) If *SP*=4*x* -3 and *PQ* =18 +*x* find the value of *x*.

7) Use parallelogram *MNOP*. Justify your answers.



1) If *MNOP* is a rhombus, what type of triangle is *PQM*?

2) Is it true that $\overline{PQ} \cong \overline{NQ}$ if *MNOP* is a square?

3) If $\angle NQO$ is right, is *MNOP* a rhombus?