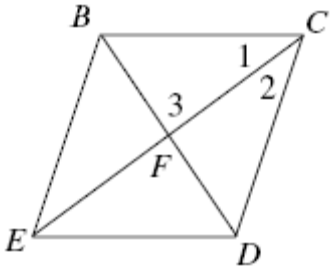
Name: _____

Rectangles, Rhombi, and Squares

1) Use rhombus *BCDE* and the given information to find the missing value.

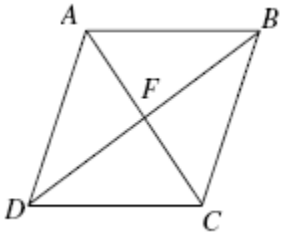


1) If $m\angle 1 = 2x + 20$ and $m\angle 2 = 5x - 4$, find the value of x.

2) If $BD = 15$, find BF.

3) If $m\angle 3 = y^2 + y$, find y

2) Use rhombus *ABCD* and the given information to find each value.



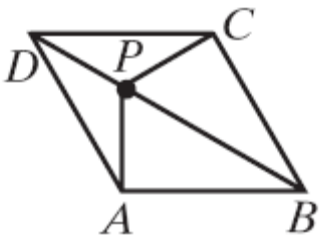
1) If $m\angle BAF = 28$, find $m\angle ACD$.

2) If $m\angle ACD = 34$, find $m\angle ABC$.

3) What is the value of x if $m\angle BFC = 120 - 4x$.

3) Let P be any point on diagonal $\overline{BD}$ of rhombus $ABCD$

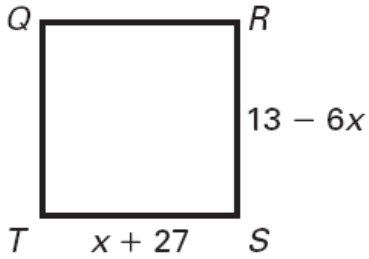
Prove that $\overline{AP} \cong \overline{CP}$



4) ABCD is a parallelogram. The midpoint of $\overline{AB}$ is M, the midpoint of $\overline{CD}$ is N, and $AM = AD$

1) Prove that AMND is a rhombus
2) Prove that MBCN is a rhombus

5) *QRST* is a square. What is the value of *x*?



6) Name all the quadrilaterals – parallelogram, rectangle, rhombus, or square – that have each property.

   1) Diagonals are congruent.

   2) One pair of opposite sides is congruent and parallel.

   3) All sides congruent and all angles are congruent.

   4) The diagonals are perpendicular.

7) Prove that if the midpoints of the sides of a square are joined in order then another square will be formed.

8) Two segments, $\overline{AEC}$ and $\overline{BED}$ are congruent. Each is the perpendicular bisector of the other. Prove that $ABCD$ is a square.