

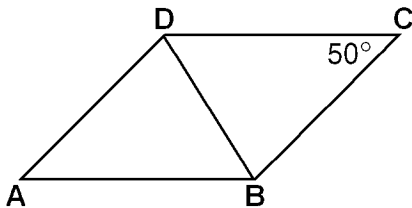
Name: _____
 CC Geometry

The Rhombus

- 1) A parallelogram must be a rhombus if the
- A) opposite angles are congruent
 - B) diagonals are perpendicular
 - C) opposite sides are congruent
 - D) diagonals are congruent

- 2) In rhombus PQRS, diagonals \overline{PR} and \overline{QS} intersect at T. Which statement is *always* true?
- A) Triangle PQS is equilateral.
 - B) Diagonals \overline{PR} and \overline{QS} are congruent.
 - C) Triangle RTQ is a right triangle.
 - D) Quadrilateral PQRS is a square.

- 3) In the accompanying diagram of rhombus ABCD, diagonal \overline{BD} is drawn and $m\angle C = 50^\circ$.



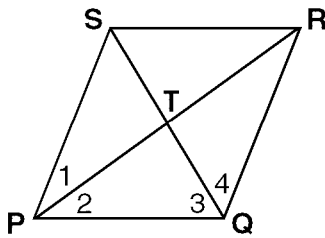
Find $m\angle ADB$.

- 4) If the lengths of the diagonals of a rhombus are 10 and 24, find the length of *one* side of the rhombus.

- 5) In rhombus ABCD, $\overline{AB} = 2x - 2$ and $\overline{BC} = x + 8$. Find the length of \overline{BC} .

Questions 6 through 10 refer to the following:

In the diagram below, PQRS is a rhombus with diagonals \overline{PR} and \overline{SQ} .



- 6) Find $m\angle PTQ$.

- 7) If $m\angle 1 = 40^\circ$, find $m\angle 2$.

- 8) If $m\angle 1 = 40^\circ$, find $m\angle 3$.

- 9) If $m\angle SPQ = (8x - 14)^\circ$ and $m\angle 1 = (3x + 3)^\circ$, find the value of x .

- 10) If $m\angle 2 = (7x - 6)^\circ$ and $m\angle 3 = (11x - 12)^\circ$, find the value of x .

1) B 2) C

3) 65°

4) 13

5) 18

6) 90°

7) 40°

8) 50°

9) 10

10) 6