

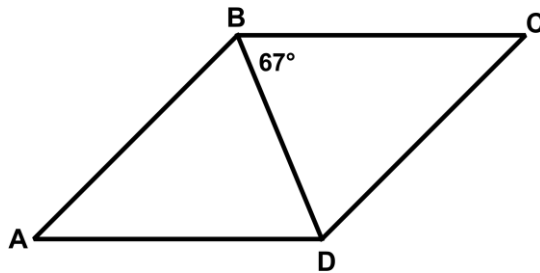
**Unit 4 L1 –L5 Review**

**#1:** If a rhombus has diagonals of length 10 and 24, what is the perimeter of the rhombus?

**#2:** In rectangle  $RSTU$  it is known that  $RS=12$  and  $ST=5$ . What is the length of diagonal  $\overline{SU}$ ?

**#3:** Given that  $ABCD$  is a rhombus and  $m\angle CBD$  is  $67^\circ$ , then which of the following is the measure of  $\angle BAD$ ?

- (1) 33.5
- (2) 46
- (3)  $67^\circ$
- (4)  $113^\circ$



**#4:** Which of the following is not a property of *all* rhombi?

- (1) both pairs of opposite angles are congruent
- (2) diagonals are congruent
- (3) diagonals are perpendicular
- (4) diagonals bisect the vertex angles

**#5:** Which of the following is *not* a property of all rectangles?

- (1) both pairs of opposite sides have equal lengths
- (2) all angles are congruent
- (3) the diagonals are congruent
- (4) the diagonals are perpendicular

#6: The shorter sides of a rectangle measure 4 inches each and one of its diagonals measures 8 inches. Which of the following is the measure of one of its longer sides?

(1)  $4\sqrt{3}$

(3)  $4\sqrt{2}$

(2) 2

(4) 6

#7: A rhombus has a perimeter of 80 inches. Its longer diagonal is 32 inches. Explain why the shorter diagonal must be 24 inches.

#8: A square has a side length of 6 inches. Which of the following is the length of its diagonal in inches?

(1) 12

(3)  $6\sqrt{2}$

(2)  $6\sqrt{3}$

(4) 10

#9: The diagonals of square  $ABCD$  intersect at point  $E$ . If  $BE=10$ , then which of the following represents the length of  $\overline{AB}$ ?

(1)  $5\sqrt{2}$

(3) 20

(2)  $2\sqrt{5}$

(4)  $10\sqrt{2}$

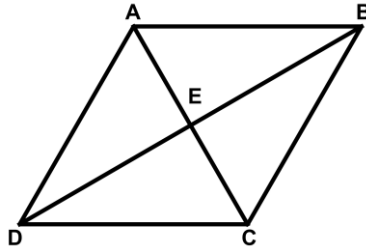
#10: In the diagram below of rhombus  $ABCD$ ,  $\overline{AD} \cong \overline{AC}$ . Which of the following is the measure of  $\angle BDC$ ?

(1)  $30^\circ$

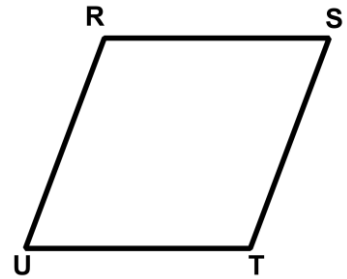
(3)  $60^\circ$

(2)  $45^\circ$

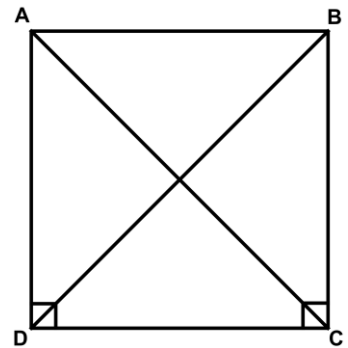
(4)  $75^\circ$



#11: Given that  $RSTU$  is a parallelogram and  $\overline{ST} \cong \overline{TU}$ , explain why  $RSTU$  must also be a rhombus.

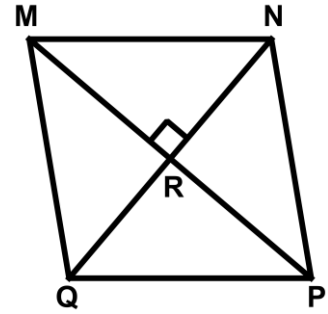


#12 In the diagram shown, it is given that  $\triangle ADC$  and  $\triangle BCD$  are isosceles right triangles. Carefully explain why must quadrilateral  $ABCD$  be a square?



#13: In the diagram below,  $MNPQ$  is a parallelogram whose diagonals are perpendicular.

Prove:  $MNPQ$  is a rhombus



#14: Given three distinct quadrilaterals, a square, a rectangle, and a rhombus, which quadrilaterals must have perpendicular diagonals?

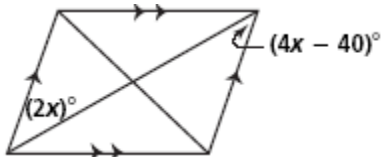
- 1) the rhombus, only
- 2) the rectangle and the square
- 3) the rhombus and the square
- 4) the rectangle, the rhombus, and the square

#15: Which reason could be used to prove that a parallelogram is a rhombus?

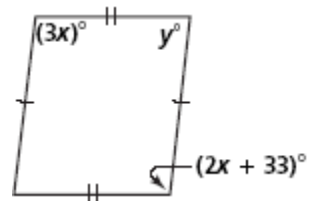
- 1) Diagonals are congruent.
- 2) Opposite sides are parallel.
- 3) Diagonals are perpendicular.
- 4) Opposite angles are congruent.

Find the values of the variables for each figure.

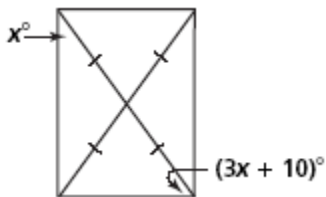
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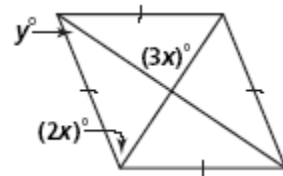
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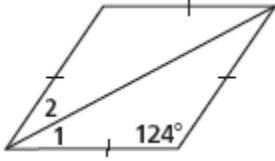


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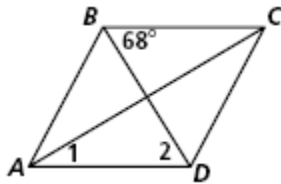
Find the measures of  $\angle 1$  and  $\angle 2$ .

20.

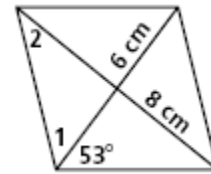


Find the measures of the numbered angles in each rhombus.

21.  $BD = 2$  in.,  $AC = 5$  in.



22.



Determine the most precise name of quadrilateral  $ABCD$  from the information given.

23.  $\overline{AE} \cong \overline{CE}$ ,  $\overline{BE} \cong \overline{DE}$

24.  $\triangle ABC \cong \triangle ADC$ ,  $\overline{AB} \neq \overline{BC}$

25. parallelogram  $ABCD$  with  $\overline{AC} \cong \overline{BD}$  and  $\overline{AD} \perp \overline{DC}$

26.  $\overline{AB} \parallel \overline{DC}$ ,  $\angle CAD \cong \angle BCA$

27.  $\angle ABC \cong \angle BCD \cong \angle CDA \cong \angle DAB$ ,  $\overline{AC} \perp \overline{BD}$

28.  $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$

29.  $\overline{AB} \parallel \overline{DC}$ ,  $m\angle CBD \neq m\angle ADB$ ,  $\overline{AC} \cong \overline{BD}$

