

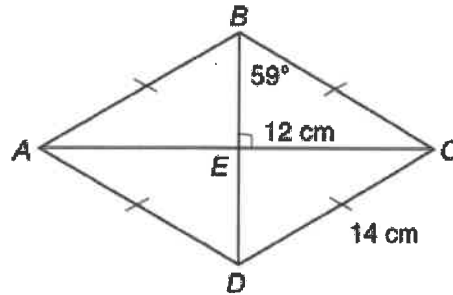
Geometry CP  
Rectangle, Rhombus, and Square Practice

Use rhombus  $ABCD$  to find the following measures.

- $m\angle BCE = 31^\circ$
- $m\angle BEC = 90^\circ$
- $AC = 24$  cm
- $m\angle ABD = 59^\circ$
- $m\angle ADC = 108^\circ$
- $AD = 14$  cm

$$1) \quad m\angle BCE + 59 + 90 = 180$$

$$m\angle BCE = 31^\circ$$



Use square  $ABCD$  and the given information to find each value.

7. If  $m\angle AEB = 3x$ , find  $x$ .

$$3x = 90$$

$$x = 30$$

8. If  $m\angle BAC = 9x$ , find  $x$ .

$$90 + 9x + 9x = 180$$

$$18x = 90$$

$$x = 5$$

9. If  $AB = 2x + 4$  and  $CD = 3x - 5$ , find  $BC$ .

$$2x + 4 = 3x - 5$$

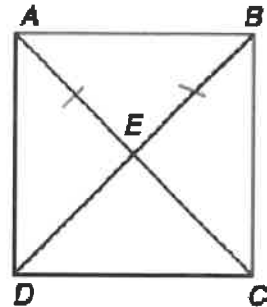
$$9 = x$$

$$BC = AB = CD$$

$$= 2x + 4$$

$$= 2(9) + 4$$

$$= 22$$



Use rectangle  $ABCD$  and the given information to find each value.

10. If  $AC = 4x - 60$  and  $AE = x + 5$ , find  $EC$ .

$$4x - 60 = 2(x + 5)$$

$$4x - 60 = 2x + 10$$

$$2x = 70$$

$$x = 35$$

$$EC = AE$$

$$= x + 5$$

$$= 35 + 5$$

$$= 40$$

11. If  $m\angle BAC = 4x + 5$  and  $m\angle CAD = 5x - 14$ , find  $m\angle CAD$ .

$$4x + 5 + 5x - 14 = 90$$

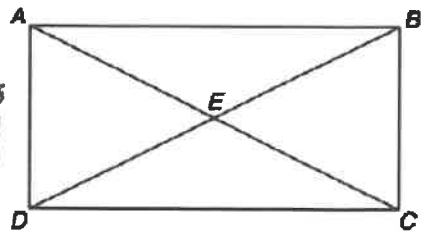
$$9x - 9 = 90$$

$$9x = 99$$

$$x = 11$$

$$m\angle CAD = 5(11) - 14$$

$$= 41^\circ$$



12. If  $AE = 2x + 3$  and  $BE = 12 - x$ , find  $BD$ .

$$2x + 3 = 12 - x$$

$$3x = 9$$

$$x = 3$$

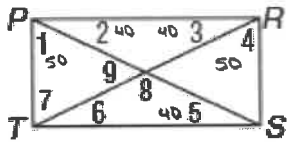
$$BD = 2(12 - x)$$

$$= 24 - 2x$$

$$= 24 - 2(3)$$

$$= 18$$

13.  $PRST$  is a rectangle, find the measure of all the numbered angles if  $m\angle 1 = 50^\circ$ .



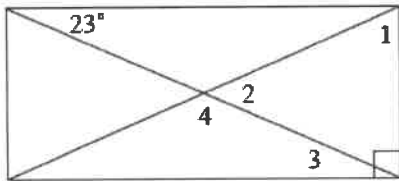
$$\begin{aligned} m\angle 1 &= 50 \\ m\angle 2 &= 40 \\ m\angle 3 &= 40 \\ m\angle 4 &= 50 \end{aligned}$$

$$\begin{aligned} m\angle 5 &= 40^\circ \\ m\angle 6 &= 40^\circ \\ m\angle 7 &= 50^\circ \\ m\angle 8 &= 90^\circ \end{aligned}$$

$$m\angle 9 = 90^\circ$$

For each parallelogram, a) choose the best name, then b) find the measures of the numbered angles.

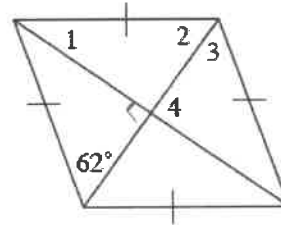
14.



rectangle

$$\begin{aligned} m\angle 3 &= 23^\circ \\ m\angle 4 &= 134^\circ \\ m\angle 2 &= 46^\circ \\ m\angle 1 &= 67^\circ \end{aligned}$$

15.



rhombus

$$\begin{aligned} m\angle 4 &= 90^\circ \\ m\angle 3 &= 45^\circ \\ m\angle 2 &= 45^\circ \\ m\angle 1 &= 45^\circ \end{aligned}$$

Use the properties of the special quadrilaterals you have learned so far to determine if the following statements are true or false. If a statement is false, rewrite it so that it is true.

16. All rectangles are squares.

False

All squares are rectangles

17. All squares are rhombi.

True

18. If a quadrilateral is a rectangle and a rhombus, then it is a square.

True

19. If a quadrilateral has congruent diagonals, then it must be a ~~square~~ <sup>rectangle</sup>.

False

20. All rectangles, rhombi and squares are parallelograms.

True

21. A rhombus has four congruent angles.

False

22. If a quadrilateral has four congruent sides, then it must be a ~~square~~ <sup>rhombus</sup>.

False