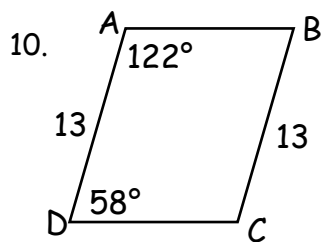**Complete with *always, sometimes,* or *never*.**
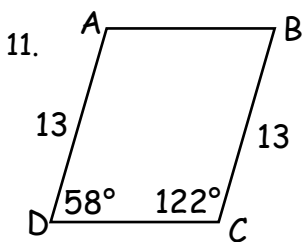
1.   A square is _____ a rectangle.

2.   The diagonals of a rectangle are _____ congruent.

3.   A rhombus _____ has consecutive congruent sides.

4.   The diagonals of a rhombus _____ bisect each other.

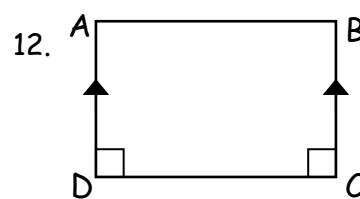5.   The diagonals of a square are _____ perpendicular.

Complete each of the following statements.
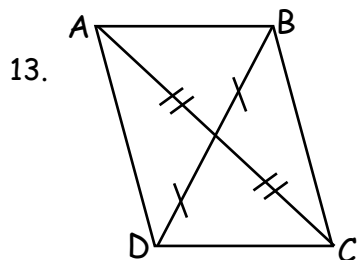
6.   A _____ is both a rhombus and a rectangle.

7.   The _____ of a rhombus are perpendicular.

8.   The _____ of a trapezoid is parallel to the bases and has a length equal to half

        the sum of the lengths of the bases.

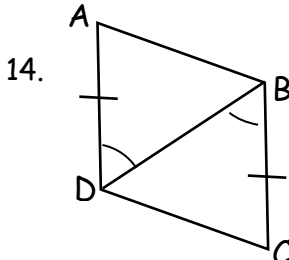9.   A _____ is a quadrilateral with four congruent sides.

Study the markings (or Numbers) on each figure and decide whether *ABCD* <u>must be</u> a parallelogram. Explain your reasoning.

10.

A $122°$ B
13 13
D $58°$ C

_____
_____
_____
_____

11.

A   B
13 13
D $58°$ $122°$ C

_____
_____
_____
_____

12.

A   B
D   C

_____
_____
_____
_____

13.

A   B
D   C

_____
_____
_____
_____

14.

A
D B
C

_____
_____
_____
_____

15.

A   B $75°$
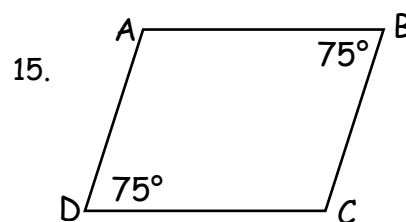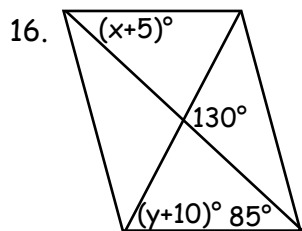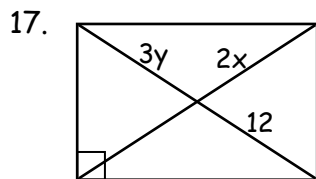D $75°$ C

_____
_____
_____
_____

Write an equation and solve for each value in each of the following parallelograms. Explain your reasoning.

16.

(x+5)°

130°

(y+10)° 85°

x = _____ because _____

_____

y = _____ because _____

_____

17.

3y   2x

12

x = _____ because _____

_____

y = _____ because _____

_____

18.

28

25

3x+4   2y-8

x = _____ because _____

_____

y = _____ because _____

_____

19.

(11x-24)°

(3x+8)°   (2y-6)°

x = _____ because _____

_____

y = _____ because _____

_____

20.

3x°   2y+9

30°

4y+17

x = _____ because _____

_____

y = _____ because _____

_____
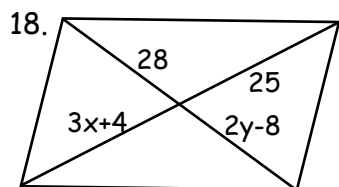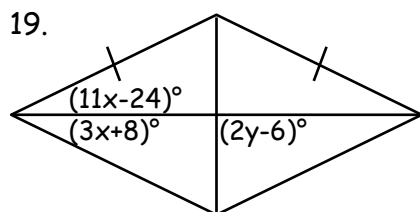
Write an equation and solve for each value in each of the following trapezoids. The median is drawn as a dashed line. Explain your reasoning.

20.

5y

(x+5)°   7y

85°

18

x = _____ because _____

_____

y = _____ because _____

_____

21.

2y°

2x+1

21

70°   70°

x = _____ because _____

_____

y = _____ because _____

_____