WARM UP

Solve the equation. Justify each step.

1. $2x - 8 = 5 + 4x$

2. $\frac{1}{2}(3x + 8) = 2x - 3$

ESSENTIAL QUESTION

What is the relationships of the sides, the angles and the diagonals of a parallelogram?

GOAL: "I CAN...
**Use the properties of parallel lines, diagonals, and triangles to investigate parallelograms."**

Draw two different sets of parallel lines, making sure that the two sets intersect. By yourself answer the following questions using your drawing.

-Where the two sets of parallel lines intersect, how many transversals are created?

-How do the sides opposite each other compare to one another? (What, if anything, do they have in common?)

-How do the angles opposite each other compare? (What, if anything, do they have in common?)

Parallelograms have:

-Two sets of opposite sides that are parallel

-Two sets of opposite sides that are congruent

-One set of opposite sides that are congruent and parallel

-Opposite angles are congruent

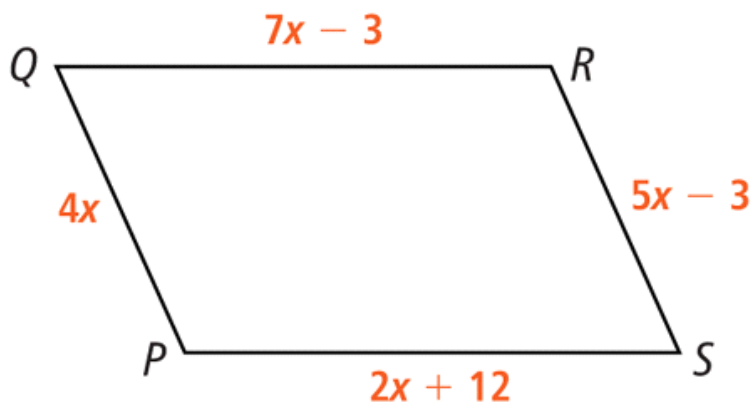-Consecutive angles are supplementary

-Bisecting diagonals

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1. Given parallelogram *WXYZ*, what is *YZ*?

5.09

X ——————— Y

3.27

W ——————— Z
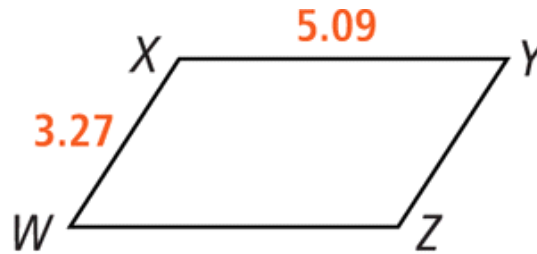
Quadrilateral *PQRS* is a parallelogram.

A. What is the value of *x*?

B. What is the length of each side of *PQRS*?

$7x - 3$

Q ——————— R

$4x$

$5x - 3$

P ——————— S

$2x + 12$

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2. The 600-meter fence around City Park forms a parallelogram. The fence along Chaco Road is twice as long as the fence along Grover Lane. What is the length of the fence along Jones Road?
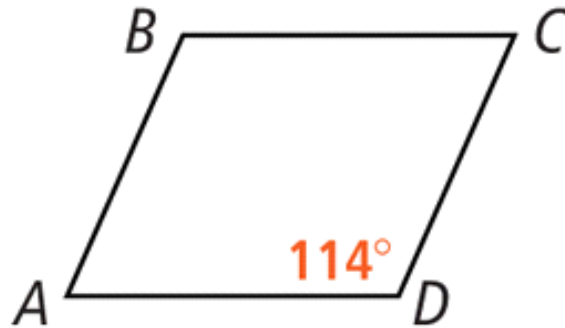
Chaco Rd.
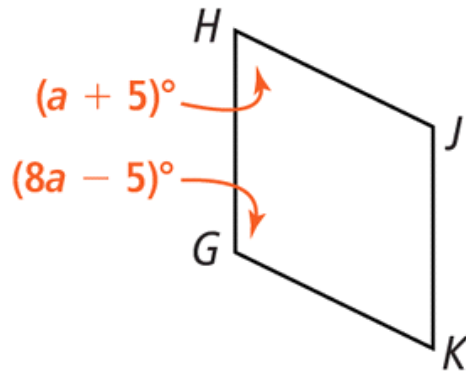
es Rd.

ver Ln.

City Park

Road?

Chaco Rd.

Jones Rd.

City Park

Grover Ln.

Village Dr.
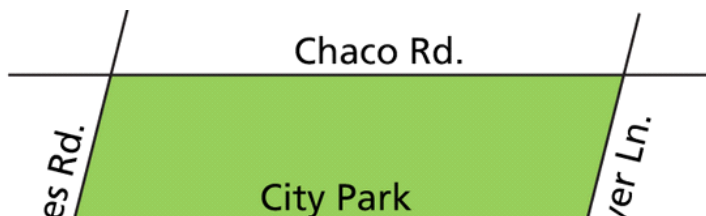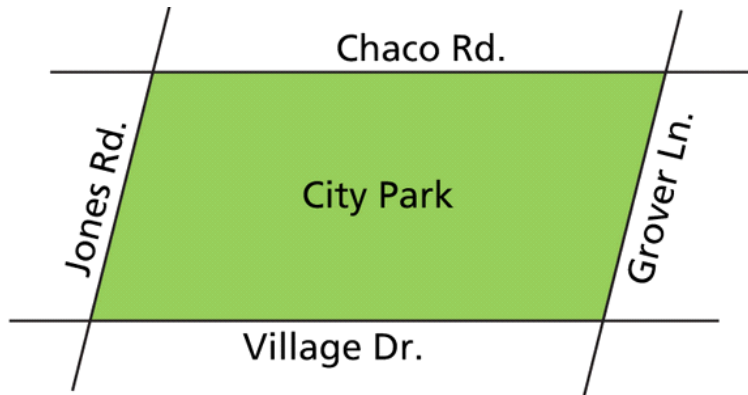
What are the measures of the remaining angles?

B

C

A

114°

D

Find the value of a and all the angle measures.

$(a + 5)°$

$(8a - 5)°$
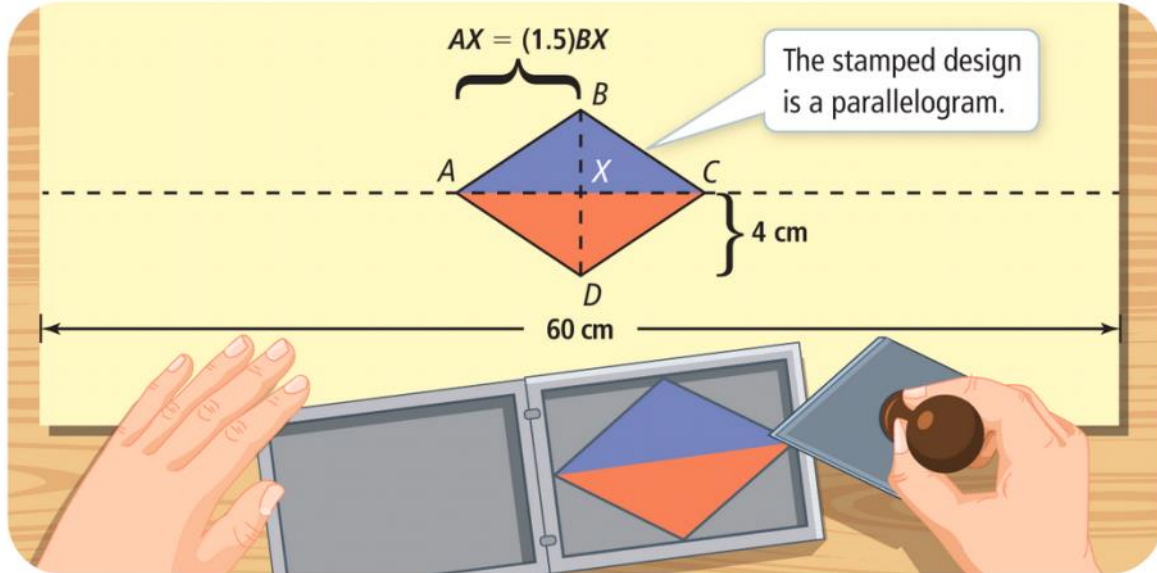

If SU is 35 and KT is 19, what is SK and RT?
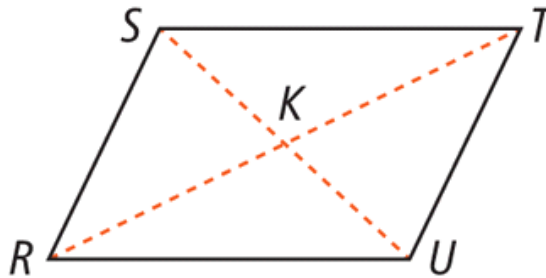
Corey stamps the orange and purple pattern shown on the front of a poster she is making. How many times will she need to stamp the design to make a row 60 cm wide along the dashed line?

$AX = (1.5)BX$

The stamped design is a parallelogram.

60 cm

4 cm

HOMEWORK

PG. 269
19-22, 24, 27