

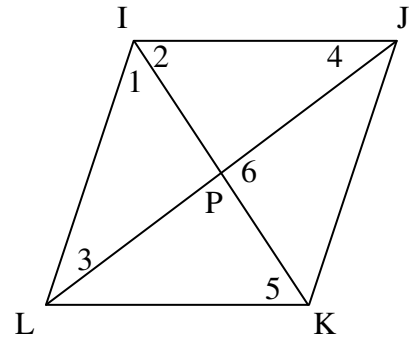
Group Members: _____, _____,
_____, _____

Working with Rhombi and Squares

Use rhombus IJKL to answer the following questions.

1. If $IJ = 5x - 3$ and $JK = 2x + 9$:

a. Draw a diagram showing the information you need.



b. Set up a geometric equation that you will use to find x , then show the algebraic substitution.

c. What rule about rhombi lets us write this equation?

d. Solve for x .

e. Find IJ .

f. Find JK .

2. What is $m\angle LPK$?

What rule did you use to decide?

3. If $IK = 34$, what is IP ?

What rule lets you find IP ?

4. If $m\angle 1 = 50$, what is $m\angle 2$?

What rule about rhombi did you use to find your answer?

5. If $m\angle 3 = 25$, what is $m\angle ILK$?

What rule about rhombi did you use to find your answer?

6. If $m\angle IJK = 64$, what is $m\angle 4$?

What rule about rhombi did you use to find your answer?

7. If $m\angle 1 = 8x$ and $m\angle 2 = 4x + 12$:

- a. What is true about these two angle measures?
- b. What rule about rhombi lets you make this conclusion?
- c. Write a geometric equation relating the angle measures, then write the algebraic equation relating the measures.
- d. Find x .
- e. Find $m\angle 1$.
- f. Find $m\angle 2$.
- g. Find $m\angle LIJ$.

Use square RSTL at the right and the information given in each question to provide an answer.

8. If $RS = 2x + 4$ and $ST = 3x - 5$:

a. Draw a figure and label the data.

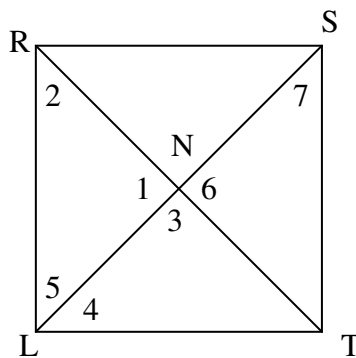
b. Write a geometric equation that relates the two measures, then show your algebraic substitution.

c. What rule for squares did you use?

d. Solve for x .

e. Find RS .

f. Find ST .



9. If $m\angle 1 = 6x$:

a. Write an equation that will let you find x .

b. What rule for squares did you use?

c. Find x .

10. Tell the measures of all the numbered angles.

11. What kind of triangle is $\triangle RNL$? How do you know?

12. What kind of triangle is $\triangle RST$? How do you know?

13. If $m\angle RTS = 9x$:

a. Write an equation that will help you find x .

b. What did you need to know to write the equation?

c. Find x .

14. List all the facts you know are true about segments and angles in a rhombus.

15. List all the facts you know are true about segments and angles in a square.

16. List all the facts you know are true about segments and angles in a parallelogram.

17. List all the facts you know are true about segments and angles in a rectangle.