
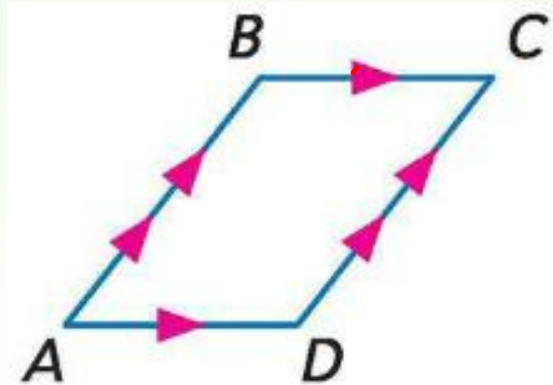


Parallelograms

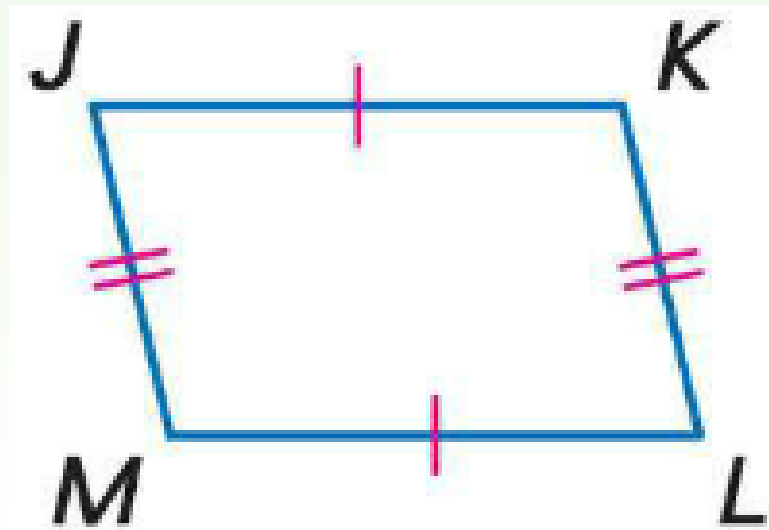
Parallelograms

- A parallelogram is a quadrilateral with both pairs of opposite sides parallel.
- To name a parallelogram, use the symbol .



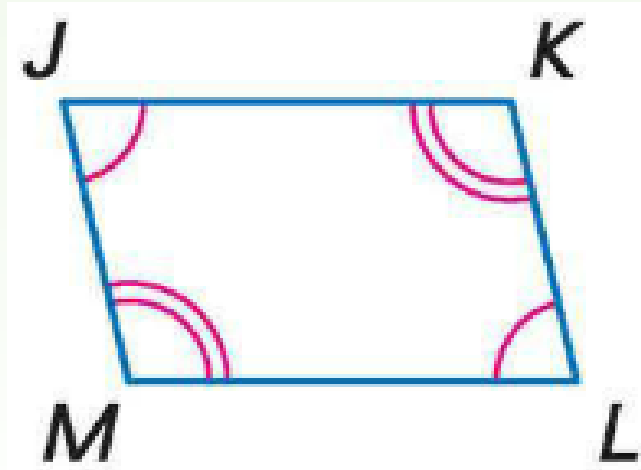
Properties of Parallelograms

- If a quadrilateral is a parallelogram, then its opposite sides are congruent.



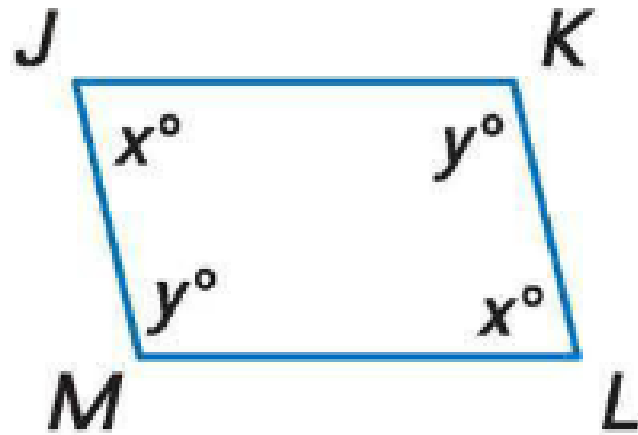
Properties of Parallelograms

- If a quadrilateral is a parallelogram, then its opposite angles are congruent.



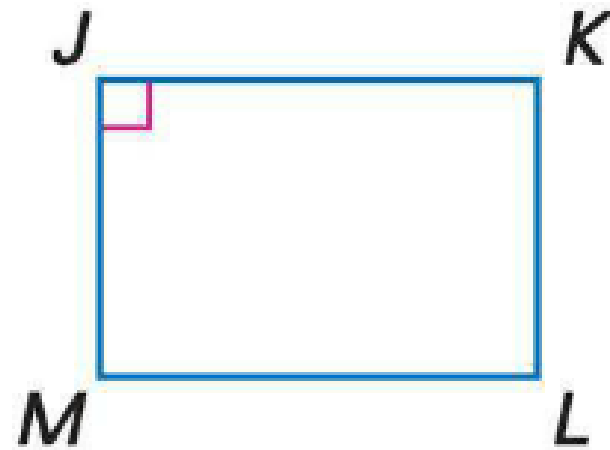
Properties of Parallelograms

- If a quadrilateral is a parallelogram, then its consecutive angles are supplementary.



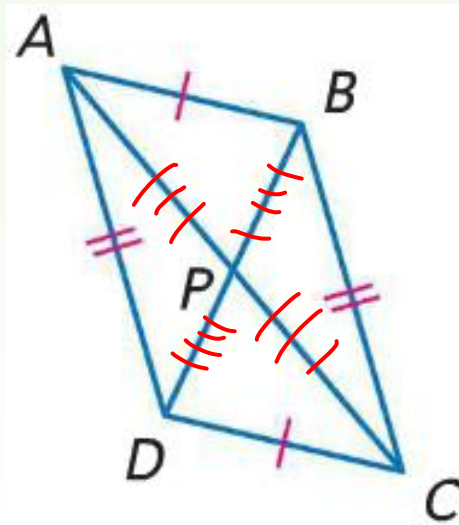
Properties of Parallelograms

- If a parallelogram has one right angle, then it has four right angles.



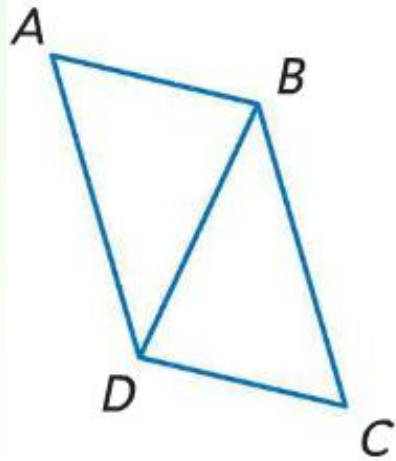
Diagonals of Parallelograms

- If a quadrilateral is a parallelogram, then its diagonals bisect each other



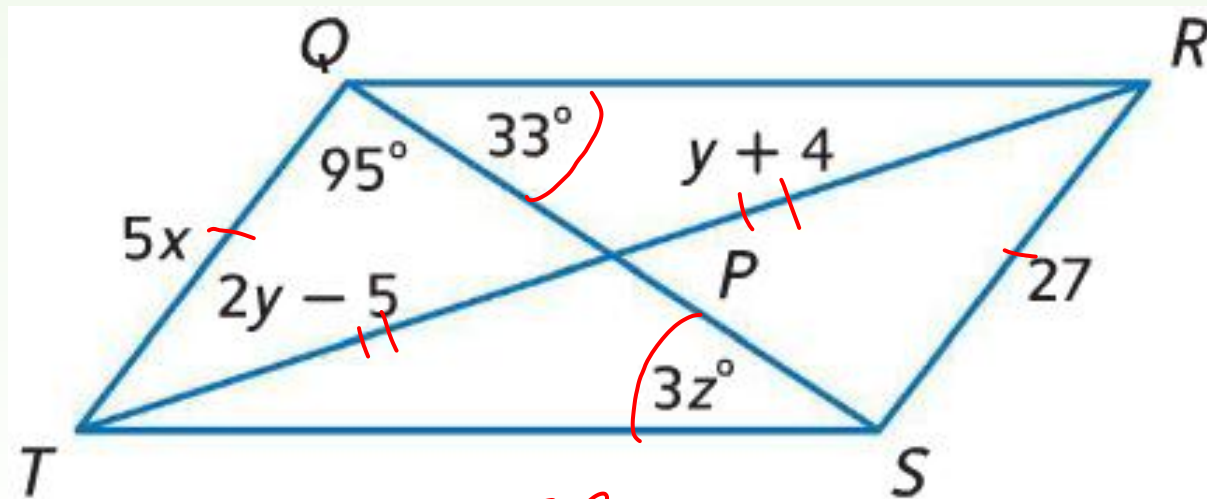
Diagonals of Parallelograms

- If a quadrilateral is a parallelogram, then each diagonal separates the parallelogram into two congruent triangles.



Examples

- If $QRST$ is a parallelogram, find the value of the variables.



$$\frac{5x}{5} = \frac{27}{5}$$

$$x = 5.4$$

$$2y - 5 = y + 4$$

$$y = 9$$

$$3z = 33$$

$$z = 11$$

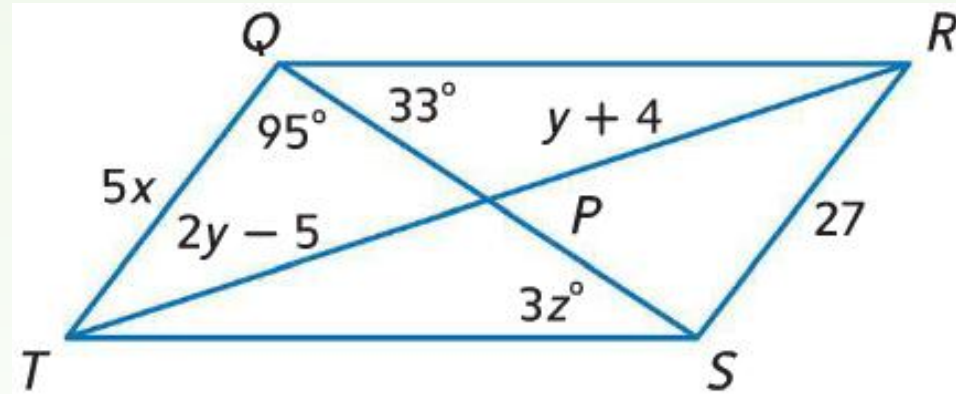
$$x = 5.4$$

$$y = 9$$

$$z = 11$$

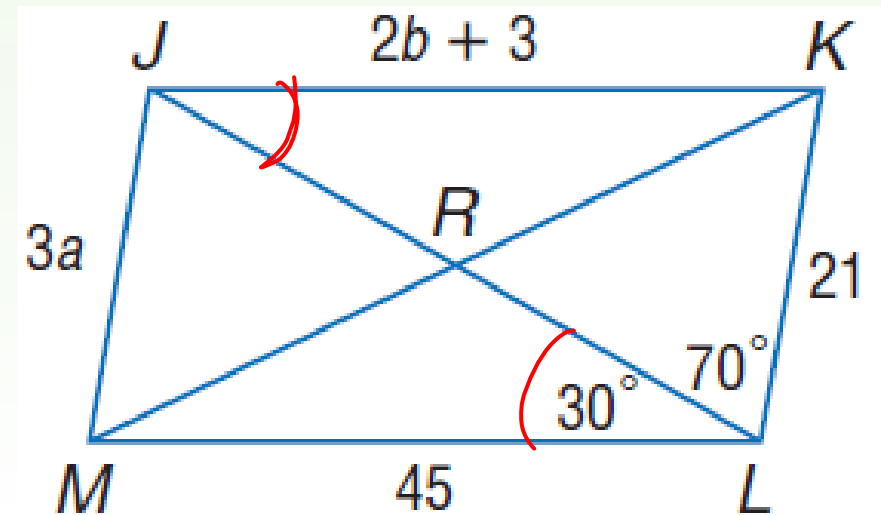
Examples

- $x: 5x = 27; x = 27/5 = 5.4$
- $y: 2y - 5 = y + 4; y = 9$
- $z: 3z = 33; z = 11$



Examples

- Use $\square JKLM$ to find each measure or value.
- $\angle MJK = 100$
- $\angle JML = 80$
- $\angle JKL = 80$
- $\angle KJL = 30$



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