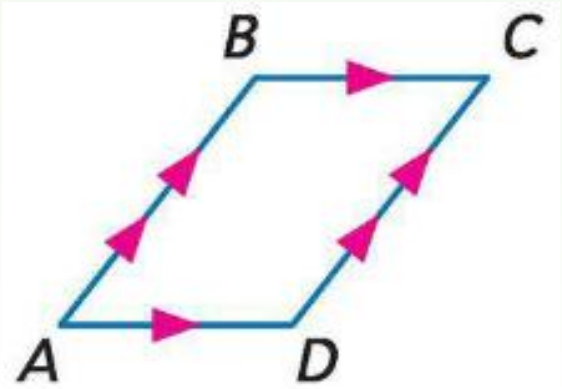
Parallelograms

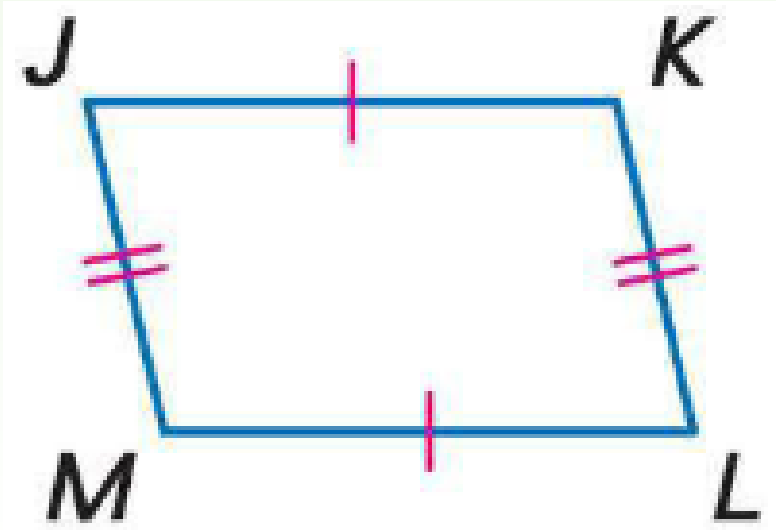
Parallelograms

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



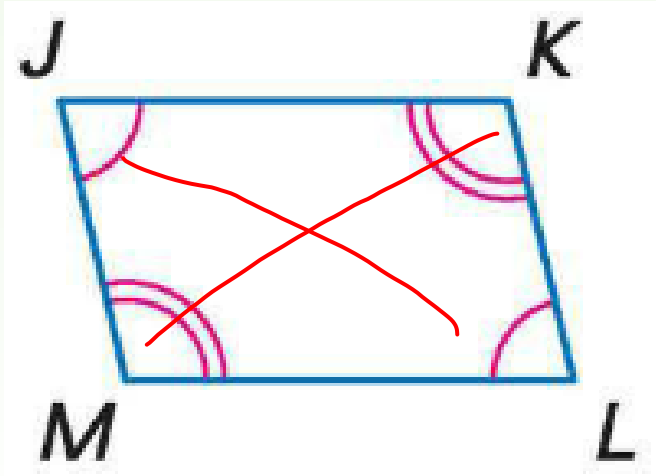
Properties of Parallelograms

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



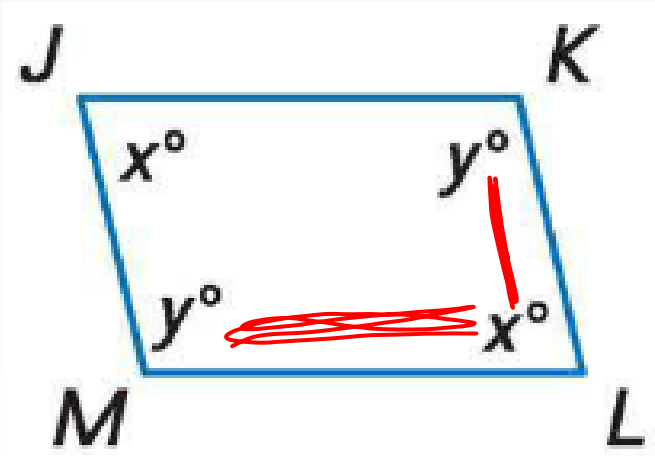
Properties of Parallelograms

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



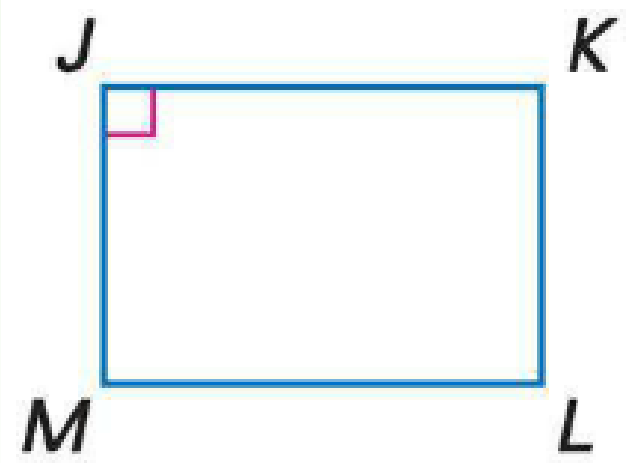
Properties of Parallelograms

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



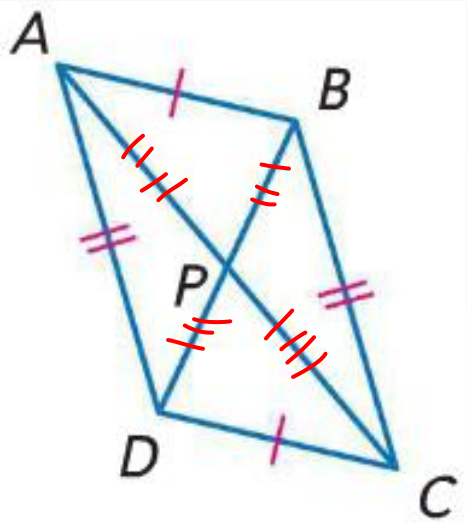
Properties of Parallelograms

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



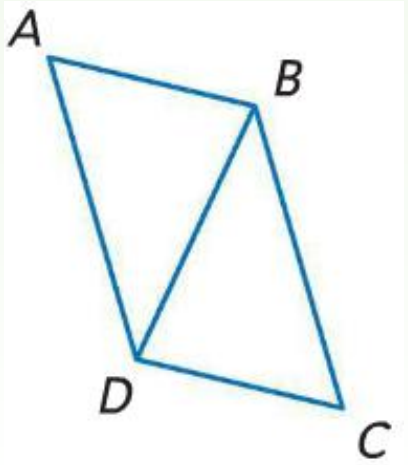
Diagonals of Parallelograms

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



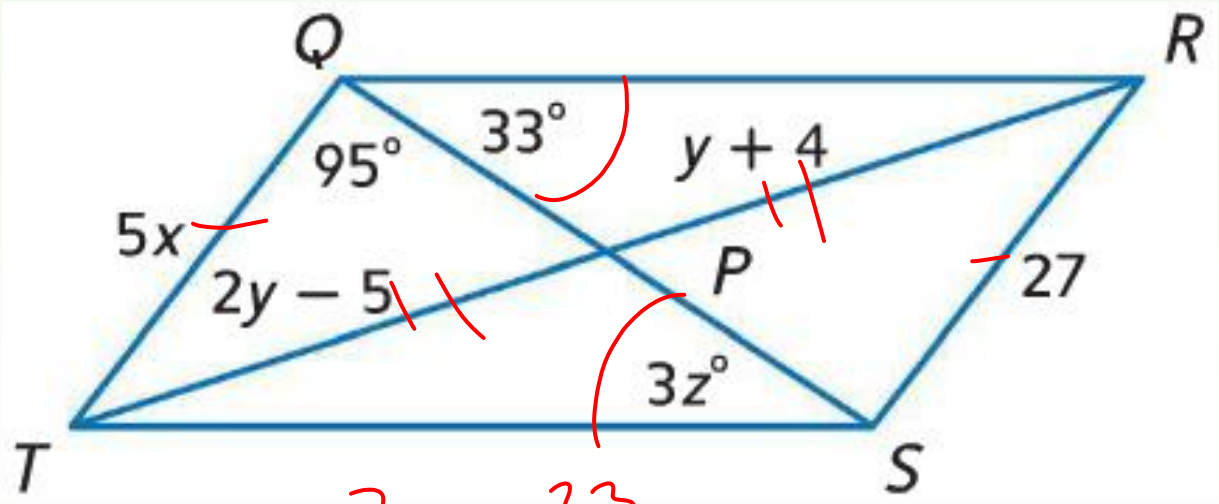
Diagonals of Parallelograms

- 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.



$5x - 27 = 5$

$5x = 32$

$x = 5.4$

$2y - 5 = y + 4$

$y = 9$

$3z = 33$

$z = 11$

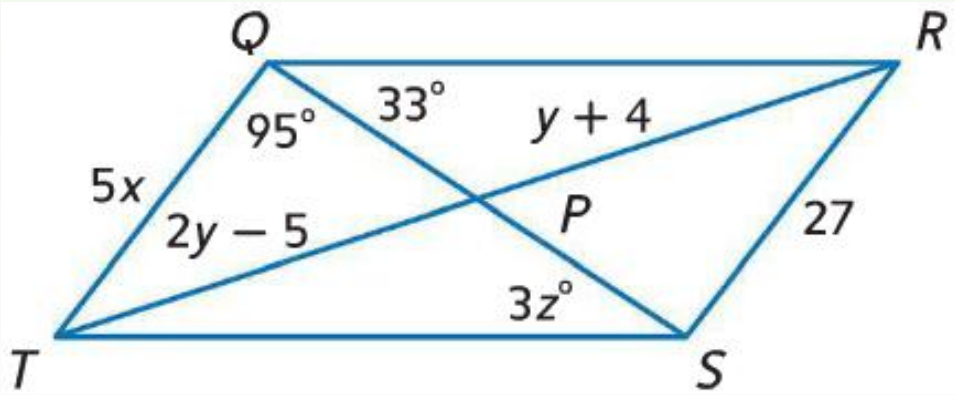
$x = 5.4$

$y = 9$

$z = 11$

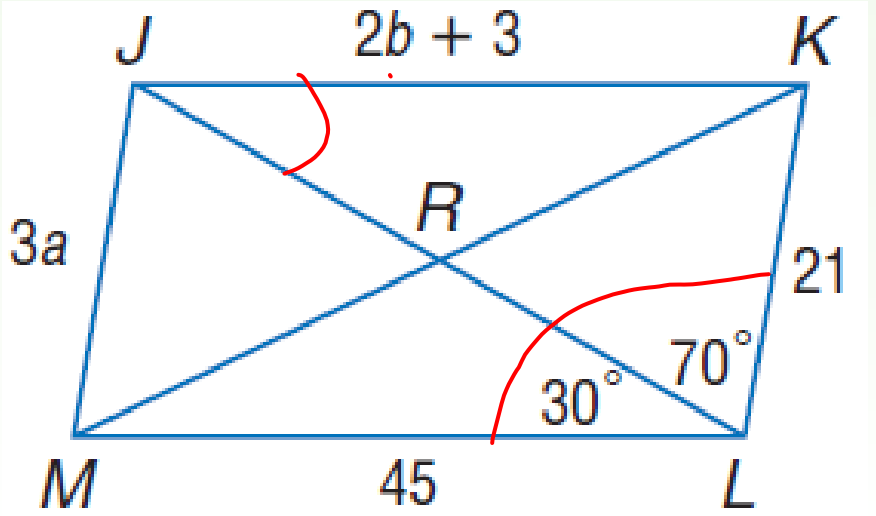
Examples

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



Examples

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



Examples

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