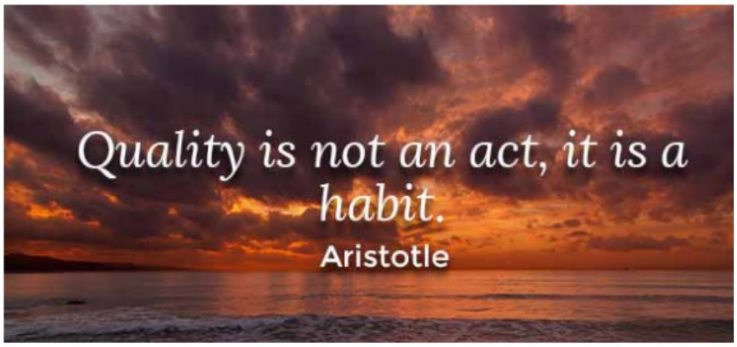
Agenda:

1. Warm Up
2. HW Review
3. 5.1 5.2 5.4 Review!!
4. ASN Matching Activity
5. Review
6. Kahoot
7. HW: Quiz on Monday!



Learning Target: I can use properties of parallelograms to identify special types of parallelograms and use the properites to find missing measures.

Warm Up:

Special Parallelograms – ~~Exit Ticket~~ Date: _____

Section 1 – Write the letter of any property that the given quadrilateral has.

A – All four sides are congruent.

B – All four angles are right angles.

C – Both pairs of opposite sides are congruent.

D – Both pairs of opposite sides are parallel.

E – Diagonals are perpendicular.

F – Diagonals are congruent.

G – Diagonals bisect angles of the quadrilateral.

H – Diagonals bisect one another.

I – Both pairs of opposite angles are congruent.

Parallelogram - C, D, I, H

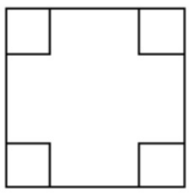
Rhombus - A, C, D, H, I, G, E

Rectangle - C, D, I, H, B, F

Square - A → I

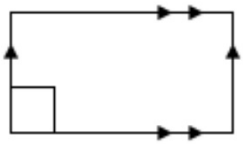
Section 2 – Based on the figure's markings, determine ALL of the classifications that the quadrilateral could be named. You may have more than one answer for each. Your choices are Parallelogram, Rhombus, Rectangle, Square, or None of These.

1.



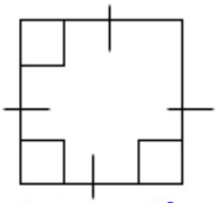
Square
parallelogram
rectangle

2.



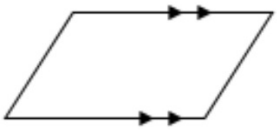
rectangle
parallelogram

3.



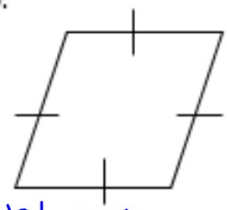
Square
parallelogram

4.



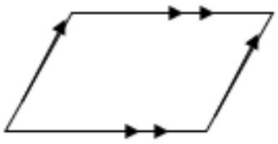
none

5.



rhombus
square
//ogram

6.



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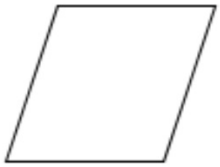

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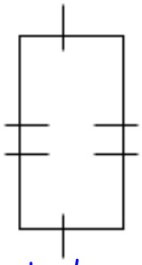


parallelogram

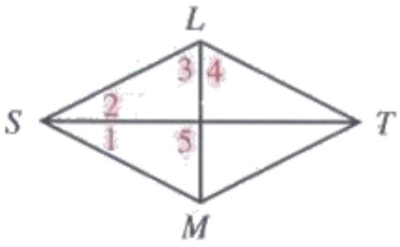
HW Review

ıad. *SLTM* is a rhombus.

. If $m\angle 1 = 25$, find the measures of $\angle 2$, $\angle 3$, $\angle 4$, and $\angle 5$. 25, 65, 65, 90

. If $m\angle 1 = 3x + 8$ and $m\angle 2 = 11x - 24$, find the value of x. x=4

. If $m\angle 1 = 3x + 1$ and $m\angle 3 = 7x - 11$, find the value of x. x=10

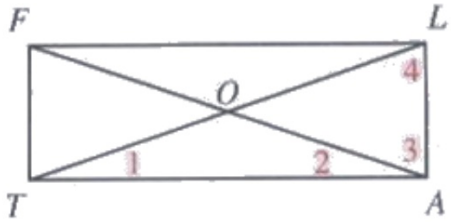


ıad. *FLAT* is a rectangle.

. If $m\angle 1 = 18$, find the measures of $\angle 2$, $\angle 3$, and $\angle 4$. 18, 72, 72

. If $FA = 27$, find LO. 13.5

. If $TO = 4y + 7$ and $FA = 30$, find the value of y. y=2

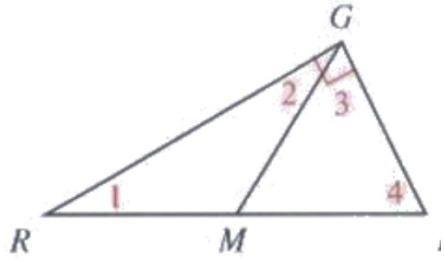


$\overline{GM}$ **is a median of right** $\triangle IRG$.

17. If $m\angle 1 = 32$, find the measures of $\angle 2$, $\angle 3$, and $\angle 4$. 32, 58, 58

18. If $m\angle 4 = 7x - 3$ and $m\angle 3 = 6(x + 1)$, find the value of x. x=9

19. If $GM = 2y + 3$ and $RI = 12 - 8y$, find the value of y. y=0.5



Determine if the following statements about special quadrilaterals are true or false.

True 1.) Every square is a rhombus.

True 2.) Every rhombus is a parallelogram.

True 3.) The opposite sides of any rhombus are parallel and congruent.

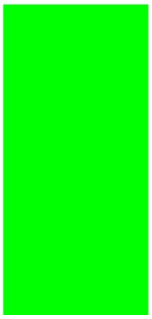
True 4.) The opposite angles of any rhombus are congruent.

True 5.) The consecutive angles of any rhombus are supplementary.

False 6.) Every rhombus is a square.

False 7.) Every parallelogram is a rhombus.

True 8.) The diagonals of a rectangle must be congruent.



True 9.) The diagonals of a rectangle must bisect each other.

False 10.) The diagonals of a rectangle must be perpendicular.

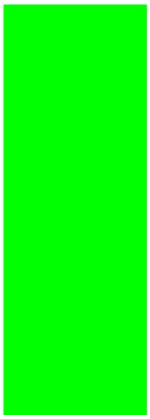
True 11.) The diagonals of a square must bisect each other.

True 12.) The diagonals of a square must be congruent.

False 13.) If the diagonals of a parallelogram are congruent, then the parallelogram must be a square.

True 14.) The diagonals of a square must be perpendicular.

True 15.) A rhombus can be a square.



Circle the quadrilaterals that have each property. Choose from parallelogram, rhombus, rectangle, and square.

1.) All angles are congruent. Rectangle, Square

2.) The diagonals are congruent. Rectangle, Square

3.) The diagonals are perpendicular. Rhombus, Square

4.) The diagonals bisect each other. All

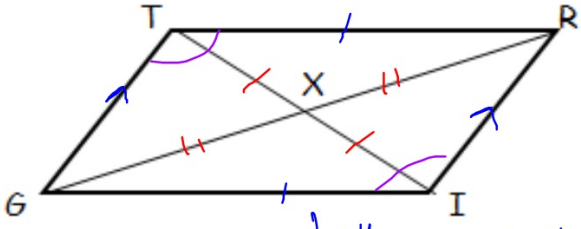
5.) The diagonals are perpendicular bisectors of each other. Rhombus, Square

6.) Consecutive angles are supplementary. All

7.) Each diagonal bisects two angles of the quadrilateral. Rhombus, Square

Always Sometimes Never
Matching Activity

1. Determine if the statement is always, sometimes or never true and put it in the corresponding category
2. When finished, raise your hand and I will check your answers
3. If all are correct, you can take a worksheet and begin working on it

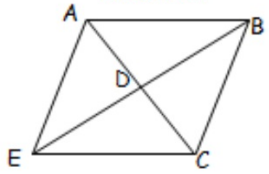


Part I: Use the given information in each exercise to determine whether TRIG is a parallelogram. If it is provide a justification.

1. $GT \cong RI$; $TR \cong GI$: both pairs of opp. sides $\cong$
2. $GT \parallel RI$; $TR \cong GI$: Not enough
3. $GT \parallel RI$; $TR \parallel GI$: def of // ogram
4. $TI \cong GR$: not enough
5. $TX \cong XI$; $GX \cong XR$: diagonals bisect
6. $\angle GXT \cong \angle RXI$: not enough
7. $\angle GTR \cong \angle RIG$; $\angle TRI \cong \angle TGI$: opposite $\angle$s $\cong$
8. $\angle RTI \cong \angle TIG$; $\angle RIT \cong \angle ITG$:
9. $TR \cong GI$; $TR \parallel GI$: one pair of opp. sides $\cong$ & //
10. X is the midpoint of GR and TI: diagonals bisect each other

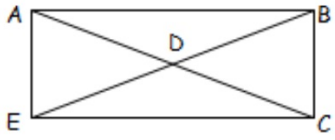
Part II: Given each figure, determine if you can conclude that the statement is true based on your knowledge of the properties of the figure.

Rhombus



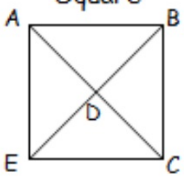
1. $\overline{AB} \cong \overline{BC}$: _____
2. $\overline{AD} \cong \overline{DC}$: _____
3. $\overline{AC} \cong \overline{EB}$: _____
4. $m\angle ADB = 90$: _____
5. $\angle EAB \cong \angle ECB$: _____

Rectangle



1. $\overline{AB} \cong \overline{BC}$: _____
2. $\overline{AD} \cong \overline{DC}$: _____
3. $\overline{AC} \cong \overline{EB}$: _____
4. $m\angle ADB = 90$: _____
5. $\angle EAB \cong \angle ECB$: _____

Square



1. $\overline{AB} \cong \overline{BC}$: _____
2. $\overline{AD} \cong \overline{DC}$: _____
3. $\overline{AC} \cong \overline{EB}$: _____
4. $m\angle ADB = 90$: _____
5. $\angle EAB \cong \angle ECB$: _____

Complete each statement with always, sometimes, or never.

1. The diagonals of a parallelogram _____always_____ bisect one another.
2. A parallelogram with four congruent sides is _____sometimes_____ a rectangle.
3. The diagonals of a rhombus are _____sometimes_____ congruent.
4. A rectangle _____always_____ has opposite sides that are congruent.
5. A parallelogram _____sometimes_____ has perpendicular diagonals.
6. A rectangle is _____sometimes_____ a square.
7. A square is _____always_____ a rectangle.
8. A parallelogram _____sometimes_____ has opposite supplementary angles.
9. A rhombus is _____sometimes_____ a rectangle.
10. A rhombus _____always_____ has perpendicular diagonals.

11. A rectangle ___always___ has congruent diagonals.

12. A square ___always___ has four congruent sides.

13. A parallelogram ___sometimes___ congruent diagonals.

14. A parallelogram is ___sometimes___ a square.

15. A square is ___always___ a parallelogram.

16. A rectangle is ___sometimes___ a rhombus.

17. A square is ___always___ a rhombus.

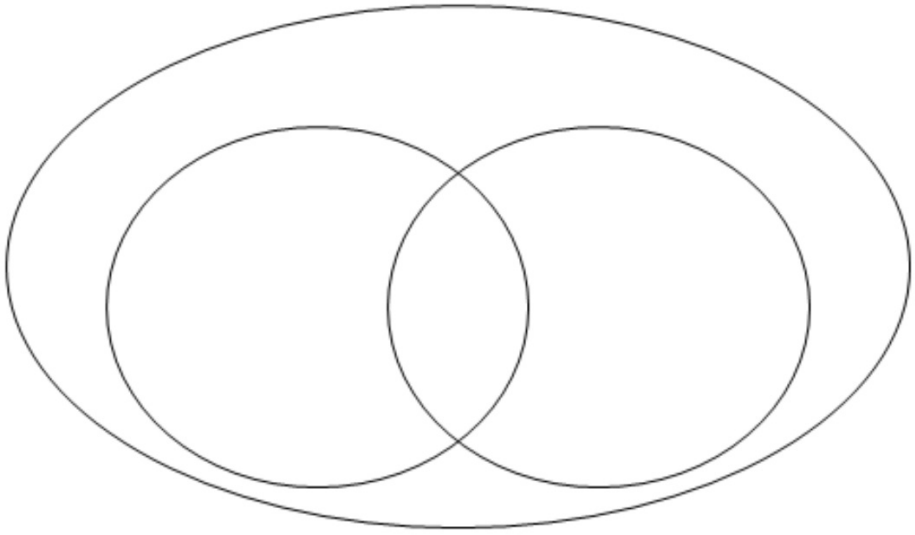
18. A rhombus is ___sometimes___ a square.

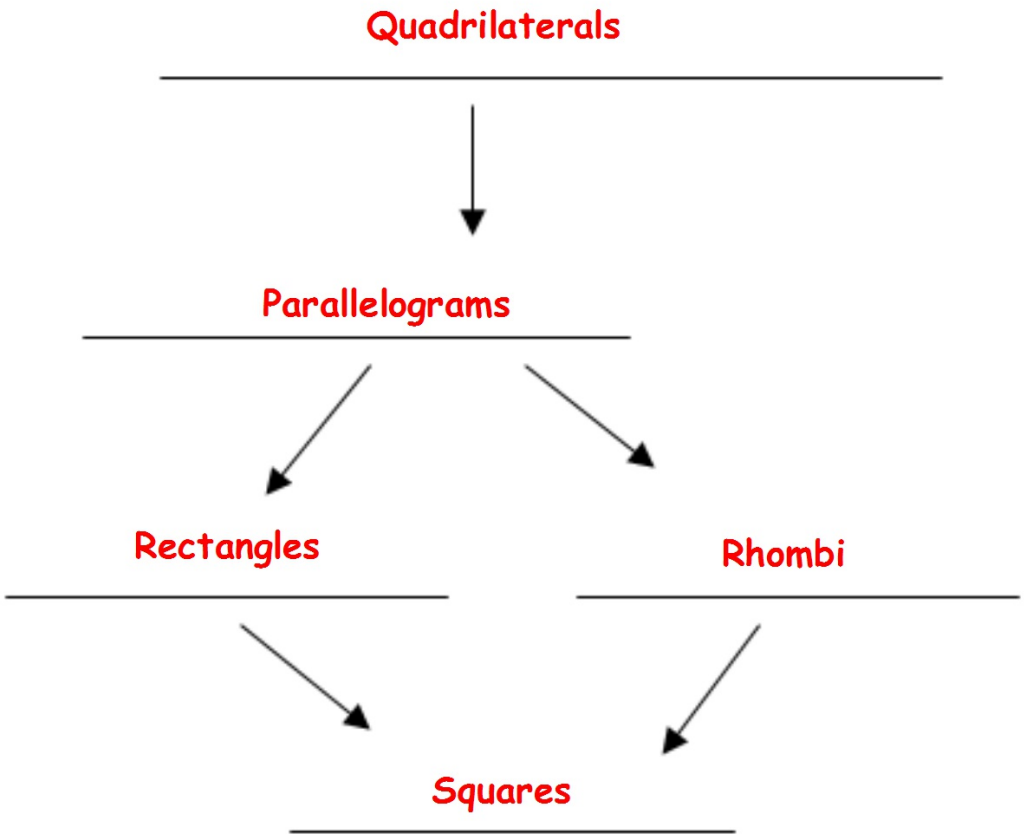
19. A rhombus ___sometimes___ has four right angles.

20. A rhombus ___never___ is a not convex polygon.
(always is)

Quadrilaterals Graphic Organizers

Parallelograms Rhombus Rectangle Square




Quadrilaterals
Parallelograms
Rectangles
Rhombi
Squares