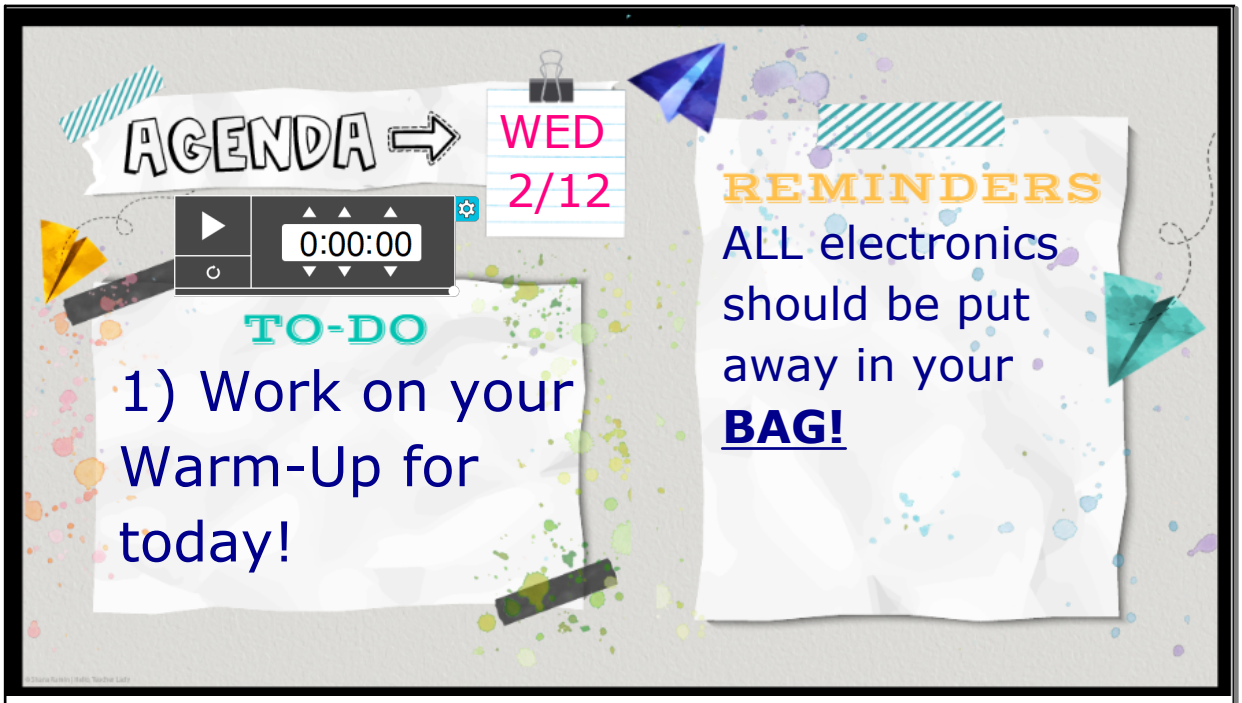


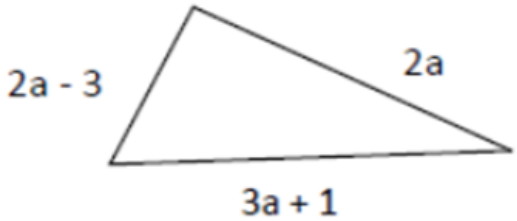
Jul 31-9:37 PM

A Reflection (or flip) is a transformation across a line

A Translation is a transformation in which all the points of a figure move the same distance in the same direction

A Rotation is a transformation around a point

Write an expression to represent the perimeter of

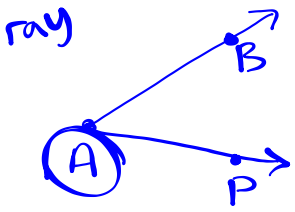


$2a - 3 + 3a + 1 + 2a$

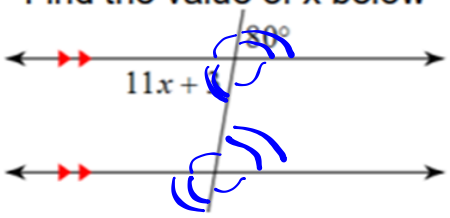
$7a - 2$

Draw $\overrightarrow{AB}$ and $\overrightarrow{AP}$ such that it forms $\angle BAP$.

ray



Find the value of x below



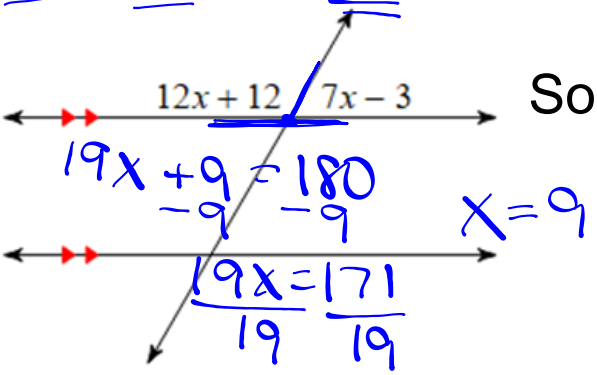
$80 = 11x + 3$

$-3 \quad -3$

$\frac{77}{11} = \frac{11x}{11}$

$7 = x$

$12x + 12 + 7x - 3 = 180$



Solve for x.

$19x + 9 = 180$

$-9 \quad -9$

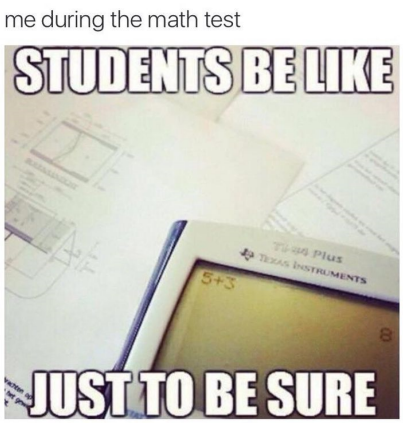
$\frac{19x}{19} = \frac{171}{19}$

$x = 9$

Skills Check

1. There is **NO communication/eye contact** during a quiz to anyone!

2. When you are DONE, **flip your quiz over on your desk.**



Aug 6-6:36 PM

What am I learning today?

Learning Objective 2A.5

How to explain and use the different characteristics and properties of all types of parallelograms

Jul 31-6:18 PM

What will I do to show that I have learned it?

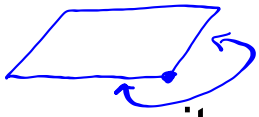
I can...Use the specific properties of parallelograms, rhombi, rectangles, and squares

Jul 31-6:18 PM

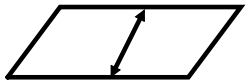
Quadrilateral - A **4**-sided polygon

Vertex (Vertices) - The point that connects **2** sides

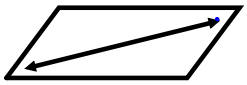
Adjacent side - Two sides that share a common **VERTEX**



Opposite side - The side opposite a specified **SIDE**



Opposite angle - The angle opposite a specified **ANGLE**

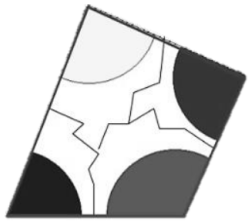


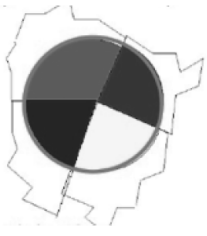
Aug 13-1:16 PM

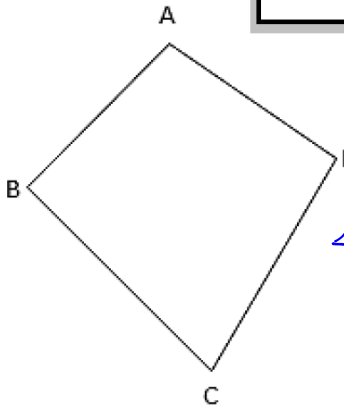
Name a quadrilateral by using a quadrilateral symbol (▱) and each vertex's letter AROUND the quadrilateral.

Quadrilateral Sum Theorem

4 Interior Angles = 360°



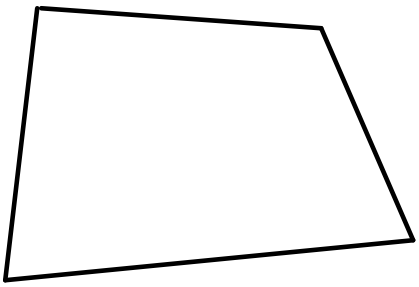




Potential Names:

▱ADCB

Aug 17-7:37 AM

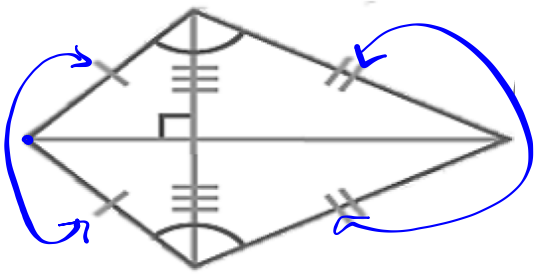


Quadrilateral

Characteristics:

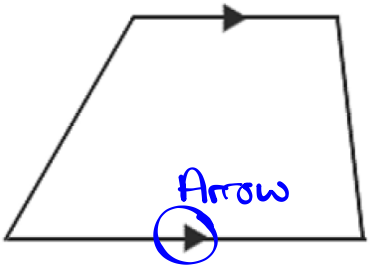
- **4** sides

Aug 17-7:37 AM

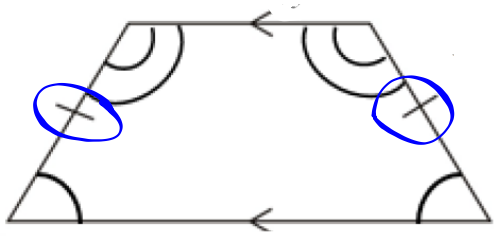


Kite

Feb 4-3:00 PM



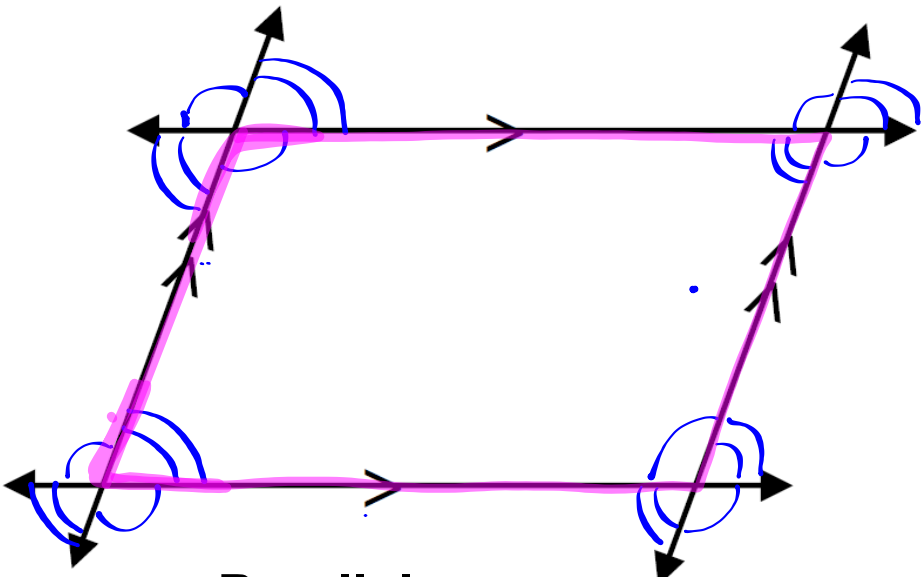
Trapezoid



Isosceles Trapezoid

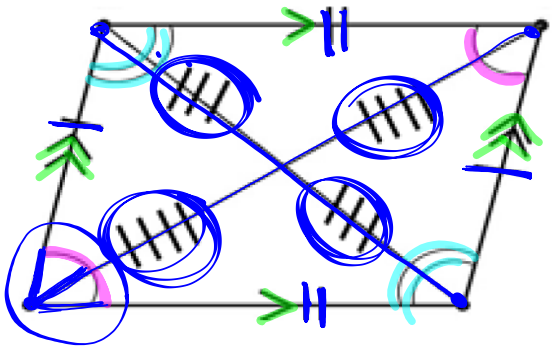
Feb 4-3:02 PM

What do we know about parallel lines?



Parallelogram

Feb 4-3:07 PM

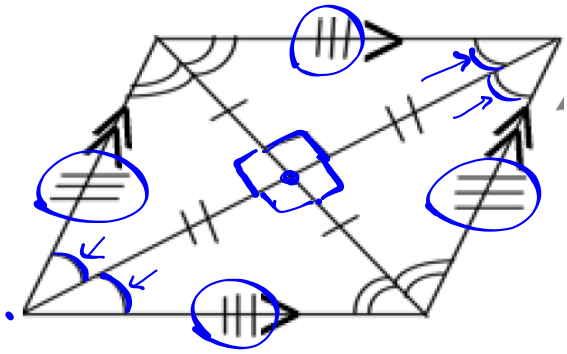


Parallelogram

Characteristics:

- Opposite sides are **PARALLEL** AND **CONGRUENT**
- Opposite angles are **CONGRUENT**
- Consecutive angles are **SUPPLEMENTARY**
- Diagonals **BISECT** each other (cut into 2 equal pieces)

Feb 4-3:09 PM

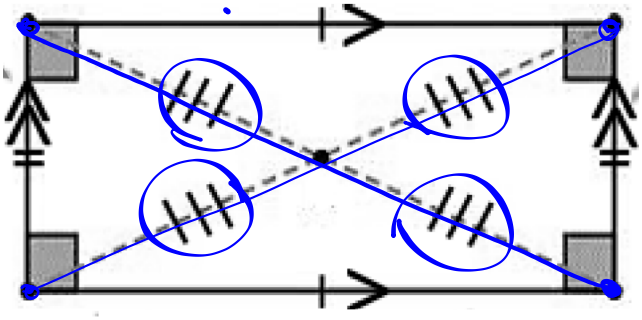


Rhombus

✳ Additional Characteristics:

- ALL sides are **CONGRUENT**
- ✳Diagonals...
  - > Are **PERPENDICULAR**
  - > **BISECT OPPOSITE ANGLES**

Aug 17-7:38 AM

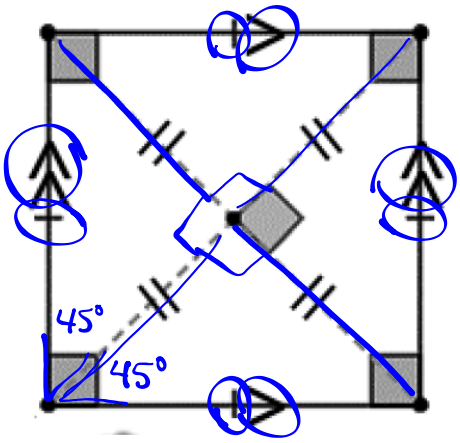


Rectangle

✳ Additional Characteristics:

- ALL corner angles are **90º**
- Diagonals are **CONGRUENT**

Feb 4-3:13 PM



Square

ALL the characteristics of parallelograms, rhombi, and rectangles!

Feb 4-3:15 PM

Label each statement as ALWAYS, SOMETIMES, or NEVER true.

1. A square is a rectangle.

ALWAYS

2. A rectangle is a square.

SOMETIMES

3. A parallelogram have opposite sides that are not congruent.

NEVER

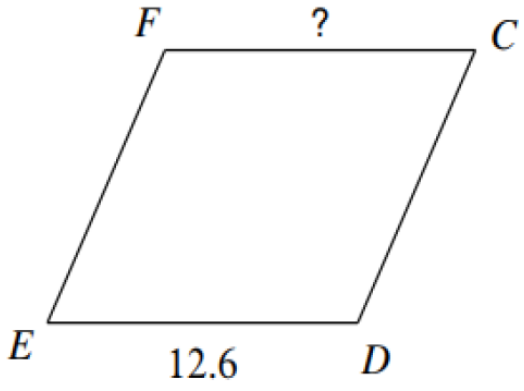
4. A trapezoid has opposite sides are parallel.

ALWAYS

Aug 17-7:38 AM

5. ▱CDEF is a parallelogram. What is the length of FC?

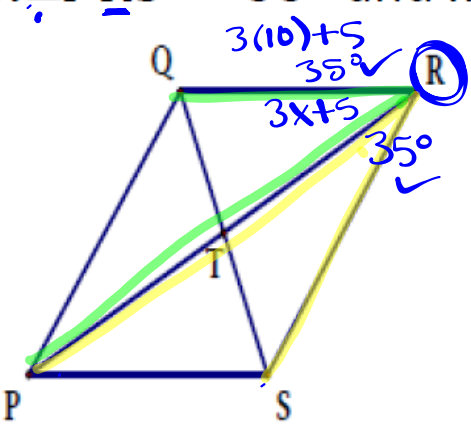
12.6



Aug 17-7:39 AM

6. ▱RSPQ is a rhombus.

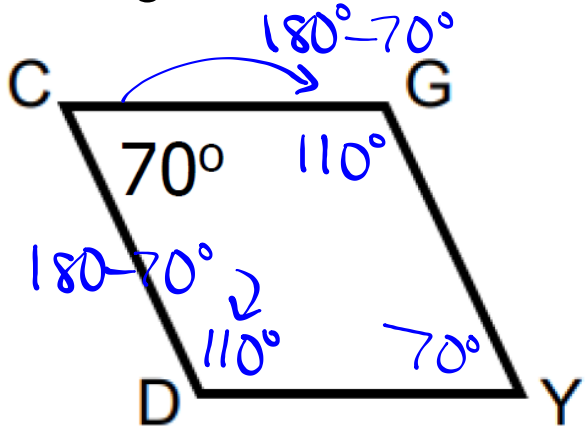
$m\angle PRS = 35°$ and $m\angle PRQ = (3x + 5)°$



$35 = 3x + 5$
$-5 \quad -5$
$\frac{30}{3} = \frac{3x}{3}$
$10 = x$

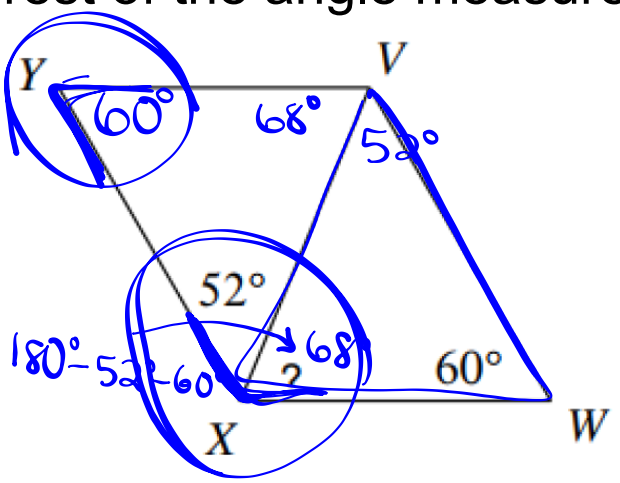
Feb 4-3:20 PM

6. ▱CDYG is a parallelogram. Find the rest of the angles.



Feb 4-3:20 PM

8. $\square$VWXY is a parallelogram. What are the rest of the angle measures?



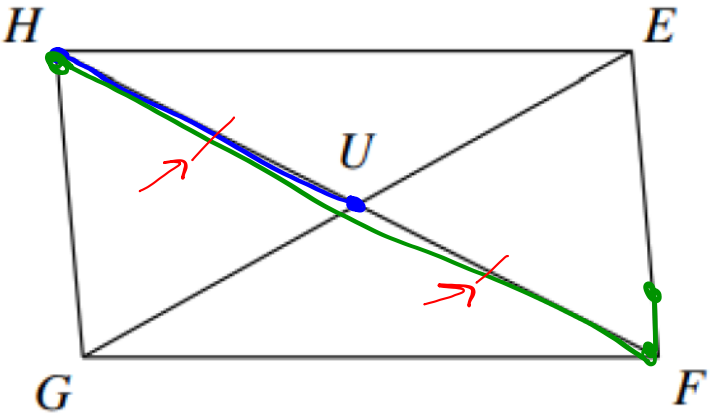
Feb 4-3:22 PM

9. $\square$EFGH is a parallelogram. Solve for x.

UH = 19 (½ diagonal)

→ ×2

FH = 5x - 7 (diagonal)



$5x-7=2(19)$

$5x-7=38$

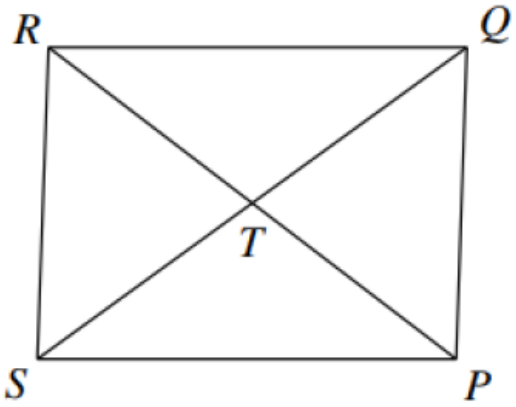
$+7 \quad +7$

$\frac{5x}{5}=\frac{45}{5}$

$x=9$

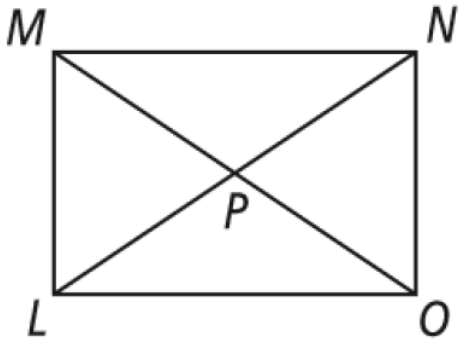
Feb 4-3:23 PM

10. $\square$RQPS is a square. If SP = 4, what is the length of the diagonal?



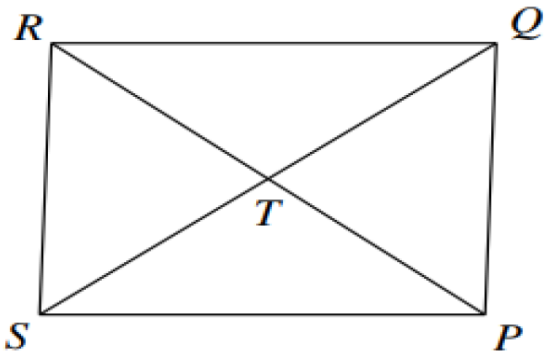
Feb 4-3:23 PM

11. $\square$LMNO is a rectangle. MO = 2x - 4 and LN = 3x - 10. Solve for MO.



Feb 4-3:23 PM

12. $\square$QRSP is a rectangle. If RQ = 8, TQ = 6, what is the length of RS?



Feb 4-3:24 PM

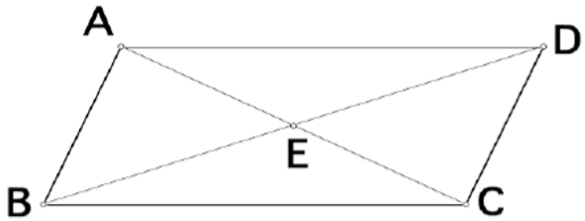
Properties of Parallelograms and Misc.:

Opposite **SIDES** are **congruent**	Opposite **ANGLES** are **congruent**	Consecutive **ANGLES** are **supplementary**
Diagonals **BISECT** each other	**REMEMBER**: - Alternate Interior **ANGLES** are **congruent** - **TRIANGLES** add up to 180° - **QUADRILATERALS** add up to 360°	

$AB = 5$
$CD =$
$BC = 14$
$AD =$
$AC = 14.2$
$AE =$
$EC =$
$BD = 17.6$
$BE =$
$ED =$

$m\angle ABE = 41°$
$m\angle EBC = 25°$
$m\angle B =$
$m\angle CDE =$
$m\angle ADE =$
$m\angle D =$
$m\angle BCE = 32°$
$m\angle DCE =$
$m\angle C =$
$m\angle BAC =$
$m\angle DAC =$
$m\angle A =$

$m\angle BEC =$
$m\angle DEA =$
$m\angle BEA =$
$m\angle DEC =$



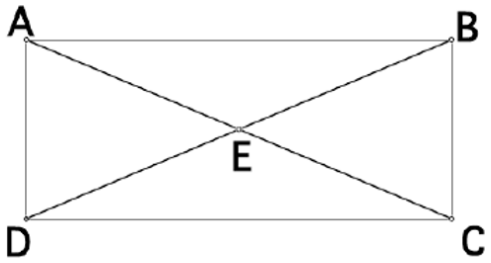
Properties of Rectangles and Misc.:

Opposite **SIDES** are **congruent**	ALL **ANGLES** are **congruent (90°)**	Consecutive **ANGLES** are **supplementary**
Diagonals **BISECT** each other Diagonals are **congruent**	**REMEMBER**: - Alternate Interior **ANGLES** are **congruent** - **TRIANGLES** add up to 180° - **QUADRILATERALS** add up to 360°	

$AB = 16$
$CD =$
$BC = 10$
$AD =$
$AC = 18.9$
$AE =$
$EC =$
$BD =$
$BE =$
$ED =$

$m\angle ABE = 36°$
$m\angle EBC = 54°$
$m\angle B =$
$m\angle CDE =$
$m\angle ADE =$
$m\angle D =$
$m\angle BCE = 54°$
$m\angle DCE =$
$m\angle C =$
$m\angle BAC =$
$m\angle DAC =$
$m\angle A =$

$m\angle BEC =$
$m\angle DEA =$
$m\angle BEA =$
$m\angle DEC =$



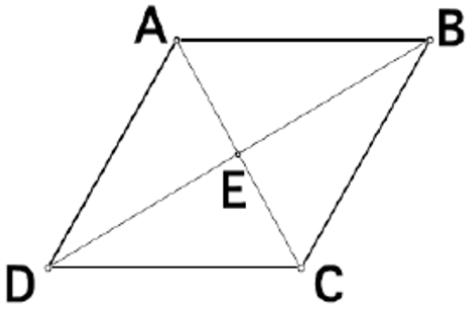
Properties of Rhombi and Misc.:

ALL **SIDES** are **congruent**	Opposite **ANGLES** are **congruent**	Consecutive **ANGLES** are **supplementary**
Diagonals **BISECT** each other and opposite angles Diagonals are **perpendicular**	**REMEMBER**: - Alternate Interior **ANGLES** are **congruent** - **TRIANGLES** add up to 180° - **QUADRILATERALS** add up to 360°	

$AB = 12$
$CD =$
$BC =$
$AD =$
$AC = 5.4$
$AE =$
$EC =$
$BD = 21.4$
$BE =$
$ED =$

$m\angle ABE =$
$m\angle EBC =$
$m\angle B =$
$m\angle CDE =$
$m\angle ADE = 27°$
$m\angle D =$
$m\angle BCE =$
$m\angle DCE =$
$m\angle C =$
$m\angle BAC = 63°$
$m\angle DAC =$
$m\angle A =$

$m\angle BEC =$
$m\angle DEA =$
$m\angle BEA =$
$m\angle DEC =$



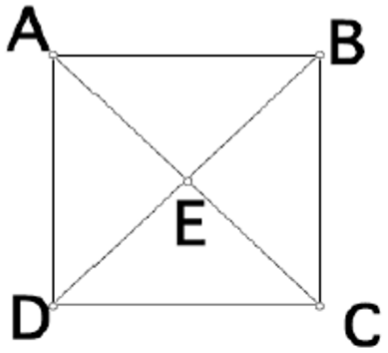
Properties of Squares and Misc.:

ALL **SIDES** are **congruent**	ALL **ANGLES** are **congruent (90°)**	Consecutive **ANGLES** are **supplementary**
Diagonals **BISECT** each other and opposite angles Diagonals are **perpendicular** Diagonals are **congruent**	**REMEMBER**: - Alternate Interior **ANGLES** are **congruent** - **TRIANGLES** add up to 180° - **QUADRILATERALS** add up to 360°	

$AB = 9$
$CD =$
$BC =$
$AD =$
$AC = 6.35$
$AE =$
$EC =$
$BD =$
$BE =$
$ED =$

$m\angle ABE =$
$m\angle EBC =$
$m\angle B =$
$m\angle CDE =$
$m\angle ADE =$
$m\angle D =$
$m\angle BCE =$
$m\angle DCE =$
$m\angle C =$
$m\angle BAC =$
$m\angle DAC =$
$m\angle A =$

$m\angle BEC =$
$m\angle DEA =$
$m\angle BEA =$
$m\angle DEC =$



Classwork:

Complete the classwork using properties of parallelograms.

HW: Finish the classwork.

Jul 31-9:12 PM