

CO-C11a

Consider parallelogram WXYZ.

- Find the measure of $\angle Z$

$\angle Z \cong \angle X$. To find $\angle X$, we need a .

Consecutive Angles are Supplementary

$9a - 40 + 2a + 20 = 180$

$10a - 20 = 180$

$10a = 200$

$a = 20$

plug in

$\angle X = \angle Z = 2(20) + 20$

$\angle X = \angle Z = 60^\circ$

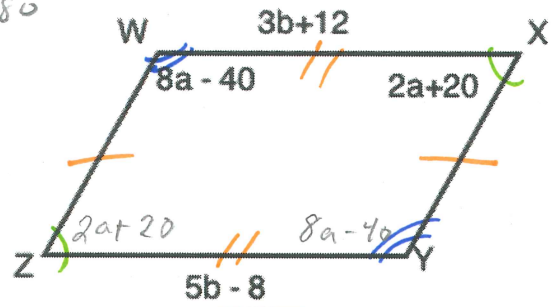
Practice Assessment

- Find the length of \overline{ZY}

Opposite sides

$3b + 12 = 5b - 8$

$20 = 2b \rightarrow 10 = b \rightarrow$ plug in: $5(10) - 8 = 42$



Consider parallelogram ABCD with diagonals intersecting at E.

- If $\overline{AC} = 12x - 6$, and $\overline{AE} = 2x + 9$, find the length of EC.

Diagonals bisect each other

~~$12x - 6 = 2x + 9$
 $10x - 6 = 9$
 $10x = 15$
 $x = 1.5$
No!!~~

$12x - 6 = 2x + 9 + 2x + 9$

$12x - 6 = 4x + 18$

$8x - 6 = 18$

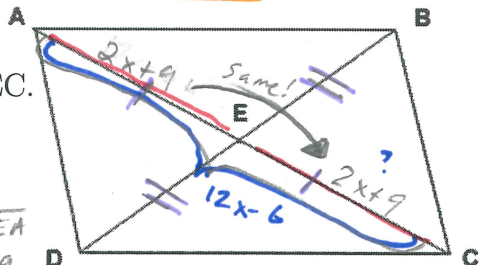
$8x = 24$

$x = 3$

$\overline{EC} \cong \overline{EA}$

$2(3) + 9$

$6 + 9 = 15$



CO-C11b

Consider rectangle ABCD for #4-5

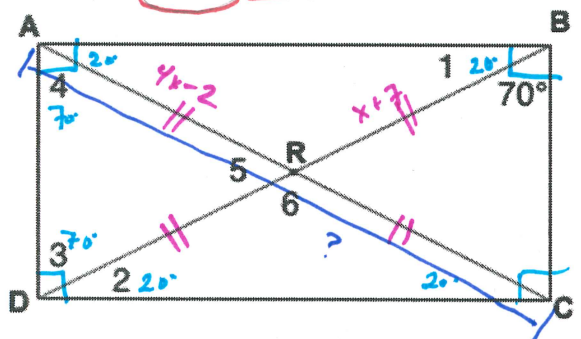
- If $\overline{AR} = 4x - 2$ and $\overline{BR} = x + 7$, find the length of AC.

Rectangles have congruent diagonals

$4x - 2 = x + 7$
 $3x - 2 = 7$
 $3x = 9$
 $x = 3$

plug in
 $4(3) - 2$
 $12 - 2$
 $= 10$

$\overline{AR} = 10$, so $\overline{AC} = 20$



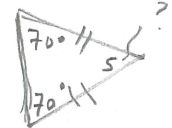
- Find the angle measures:

$\angle 1 = 20^\circ$ $\angle 2 = 20^\circ$ $\angle 3 = 70^\circ$

$\angle 4 = 70^\circ$ $\angle 5 = 70^\circ$ $\angle 6 = 140^\circ$

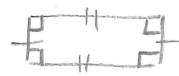
use alt. int. angles/symmetry

Isosceles Δ

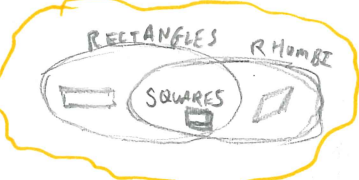


- True or false (if false, write or show an explanation): All rectangles are squares.

FALSE



Rectangle above without 4 congruent sides so not a square.

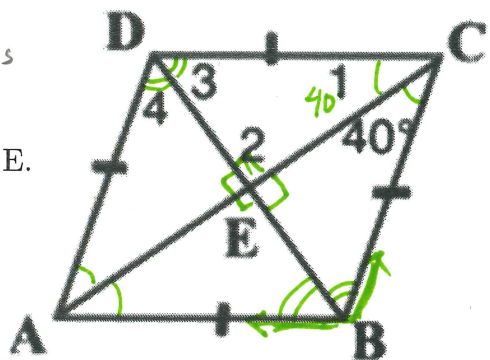


- Consider rhombus DCBA with diagonals intersecting at E.

Find the angle measures
 $\angle 1 = 40^\circ$ $\angle 2 = 90^\circ$ $\angle 3 = 50^\circ$

$\angle 4 = 50^\circ$ $\angle ABC = 100^\circ$

RHOMBUS Diagonals are perpendicular and angle bisectors



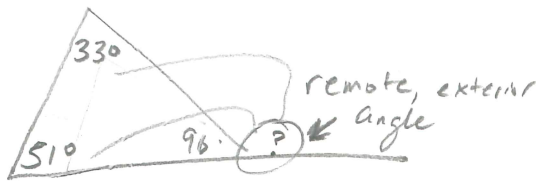
CO-C10a

Exterior Angle Theorem:



$\angle 1 + \angle 2 = \angle 4$

8. Two remote interior angles of a triangle measure 51° and 33° . What is the measure of the exterior angle associated with the remote interior angles?

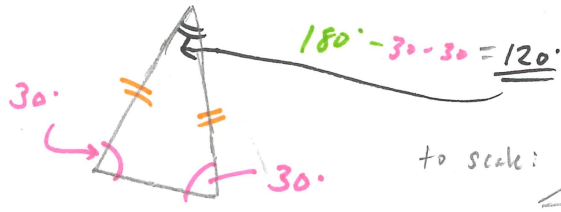


• Δ 's add up to 180;
then use linear pairs

84°

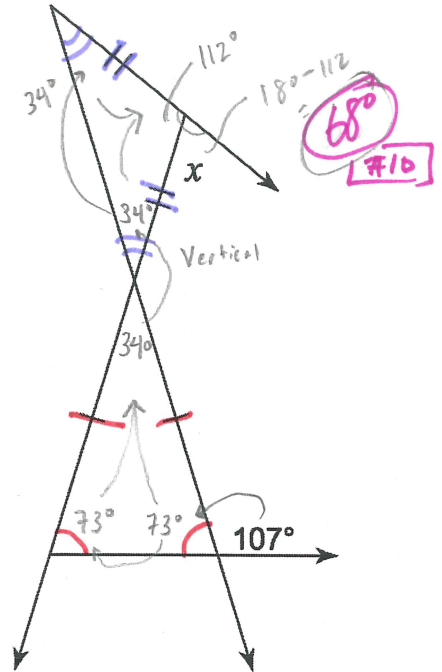
#8

9. If a base angle of an isosceles triangle measures 30° , is the triangle acute, right or obtuse? Justify your answer. $2 \cong$ sides



Obtuse, b/c the other base angle is 30° so the vertex angle is 120° the largest is 120° which is $> 90^\circ$ so obtuse.

10. Find the value of x in the figure:



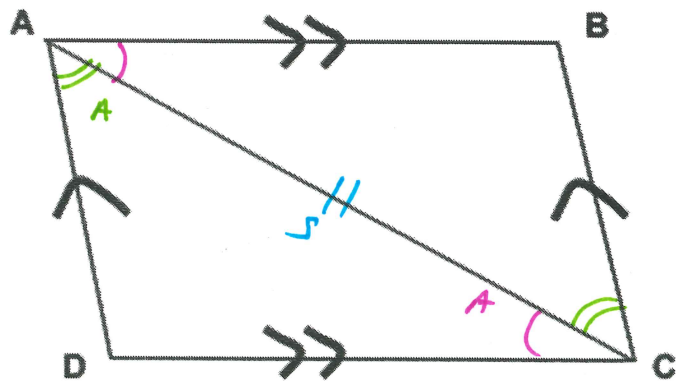
SRT-B5a

11. Complete the proof.

Given: $\overline{AB} \parallel \overline{CD}$ and $\overline{BC} \parallel \overline{DA}$

Prove: $\angle D \cong \angle B$

Statements	Reasons
1. $\overline{AB} \parallel \overline{CD}, \overline{BC} \parallel \overline{DA}$	1. Given
2. $\angle BAC \cong \angle DCA$	2. Alt. Int. Angles
3. $\overline{AC} \cong \overline{CA}$	3. Reflexive Property
4. $\angle DAC \cong \angle BCA$	4. Alt. Int. Angles
5. $\triangle ACD \cong \triangle CAB$	5. ASA
6. $\angle D \cong \angle B$	6. CPCTC



Possible reasons: (may be used more than once)

- Vertical angles
- HL
- SAS
- Congruent
- SSS
- Definition of bisect
- ASA
- AAS
- CPCTC
- SSA
- Reflexive Property
- AAA

NEVER!