

Questions on 5.8 HW?

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Figure 1 **Figure 2** **Figure 3**

- ~~Use~~ figure 3 to explain how you know the exterior angle $\angle B'CC''$ is equal to the sum of the 2 remote interior angles $\angle BAC$ and $\angle ABC$.
- Use figure 3 to explain how you know the sum of the angles in a triangle is always 180° .
All 3 \angle s of the triangle fit together to make a straight angle ($= 180^\circ$)
- Use figure 2 to explain how you know the sum of the angles in a quadrilateral is always 360° .
- Use figure 2 to explain how you know that the opposite angles in a parallelogram are congruent.
- Use figure 2 to explain how you know that the opposite sides in a parallelogram are parallel and congruent.

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Topic: Writing proofs

8. Prove that \overline{CD} is an altitude of $\triangle ABC$.
 Use the diagram and write a 2-column proof.

Prove $\overline{CD} \perp \overline{AB}$

$\overline{AC} \cong \overline{AB} \cong \overline{BC}$ (all radii of congruent \odot s)

$\triangle ABC$ is equilateral (and equiangular)

$\triangle ADC \cong \triangle BDC$ (ASA)

Based on figure, the construction of \overline{CD} is a \perp bisector of \overline{AB} .

9. Use the diagram to prove that $\triangle ABC$ is an isosceles triangle. (Choose your style.)

10. Use the diagram to prove that $m\angle A \cong m\angle B$. (Choose your style.)

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Use what you know about triangles and parallelograms to find each measure.

11. $\overline{XZ} = 24 \cdot 2 = 48m$
12. $m\angle XYZ$
13. $m\angle XYW$
14. $\overline{YX} = 30m$
15. $m\angle YXZ$
16. \overline{YW}

Handwritten notes for the diagram:

- $a^2 + 24^2 = 30^2$
- $a^2 + 576 = 900$
- $-576 \quad -576$
- $\sqrt{a^2} = \sqrt{324}$
- $a = 18$
- $180 - 90 - 55$

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Geometric Figures 5.8

17. \overline{LG}

18. \overline{HF}

19. $m\angle EHG$

20. $m\angle FEH$

21. $m\angle ELF$

22. \overline{FG}

23. \overline{EG}

24. $m\angle FGE$

Handwritten notes in the diagram:
 - Near vertex G: $180 - 68 - 80$
 - Near vertex H: $180 - 100 - 27$
 - At vertex L: 80 and 100

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Illuminate Benchmark Quiz

-for participation points-

SECONDARY MATH II
Module 5 Study Guide: Geometric Figures

Directions: Show ALL work.

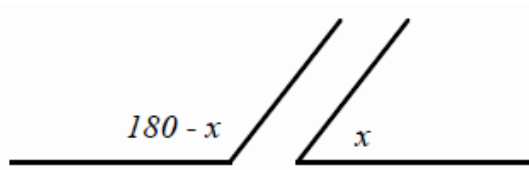
Using the proper symbolic notation, translate the statement into symbols AND draw a picture that is labeled correctly.

Statement	Symbolic Notation	Picture
1. Line AB is parallel to line CD.	1.	1.
2. Line segment MN is perpendicular to line segment PQ.	2. $\overline{MN} \perp \overline{PQ}$	2.
3. Ray RT bisects angle QRS.	3. \overrightarrow{RT} bisects $\angle QRS$	3.
4. Point V bisects line segment WX.	4.	4.
5. Triangle ABC is congruent to triangle DEF.	5. $\triangle ABC \cong \triangle DEF$	5.
6. The measure of angle C is equal to 52°.	6. $m\angle C = 52^\circ$	6.

Match each word/concept on the left with the picture depicting that word/concept on the right.

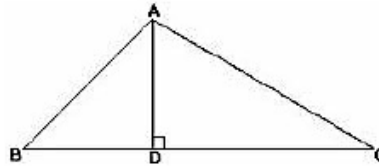
C 7. Linear Pair

a.



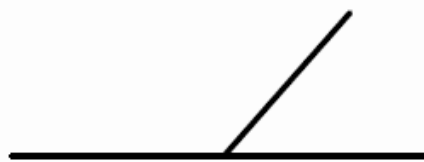
A 8. Supplementary Angles

b.



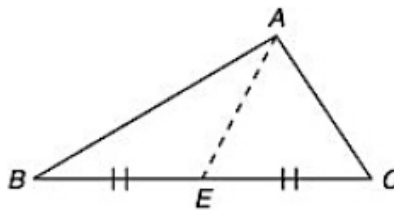
B 9. Altitude

c.



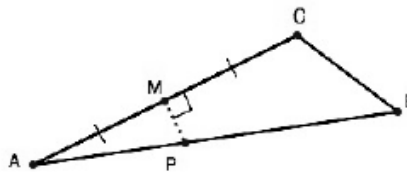
D 10. Median

d.

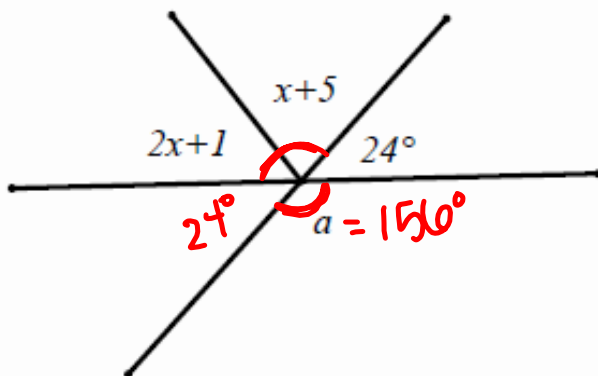


E 11. Perpendicular bisector of a side

e.



12. Find the measure of a in the diagram below

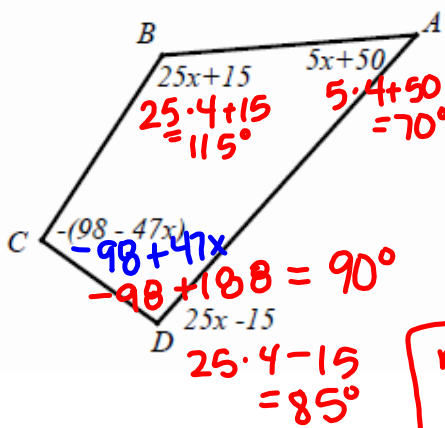


$$180 - 24 = 156^\circ$$

$$2x + 1 + x + 5 + 24 = 180$$

$$\vdots$$

13. Find the measure of all of the angles for the quadrilateral below.



$$25x + 15 + 5x + 50 + 25x - 15 + -98 + 47x = 360$$

$$102x - 48 = 360$$

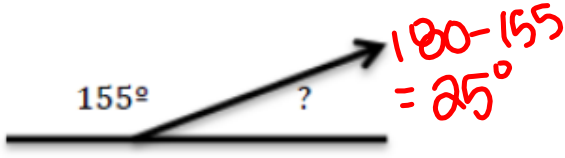
$$+48 \quad +48$$

$$\frac{102x}{102} = \frac{408}{102}$$

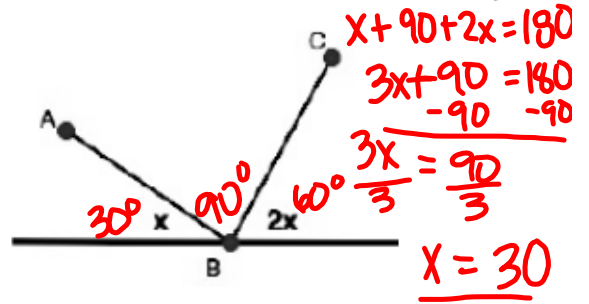
$$x = 4$$

$m\angle A = 70^\circ$
 $m\angle B = 115^\circ$
 $m\angle C = 90^\circ$
 $m\angle D = 85^\circ$

14. Find the measure of the missing angle.



15. Given $m\angle ABC = 90^\circ$, what does x equal?



16. Given the following sides, sketch the triangles, write a congruence statement, and decide what triangle congruence pattern (ASA, SSS, or SAS) allows you to say those triangles are congruent.

$\overline{CY} \cong \overline{RP}, \overline{EY} \cong \overline{BP}, \angle Y \cong \angle P$

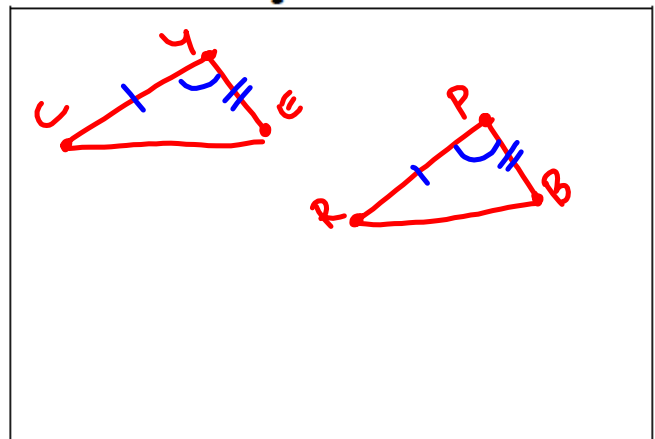
Congruence Statement:

$\triangle CYE \cong \triangle RPB$

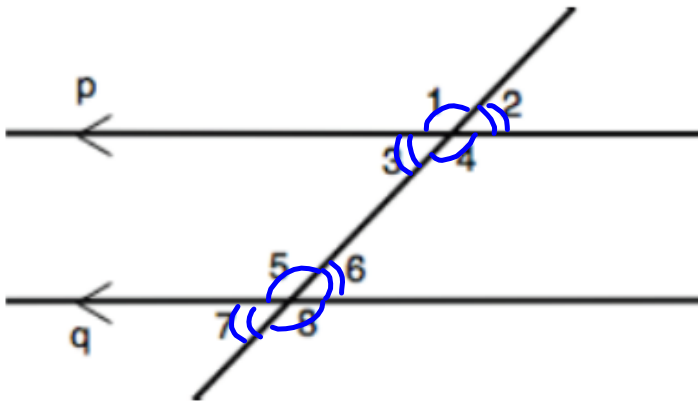
Congruence Pattern:

SAS

Triangles:



List each pair of angles as congruent or supplementary, given that lines p and q are parallel.



17. $\angle 1$ and $\angle 2$

Supp.

18. $\angle 1$ and $\angle 4$

Congruent

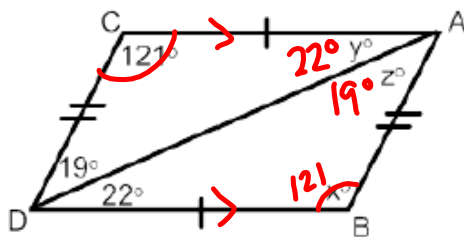
19. $\angle 4$ and $\angle 6$

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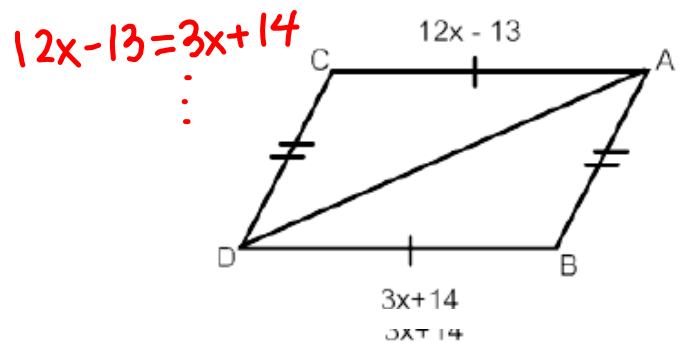
20. $\angle 2$ and $\angle 8$

Supp

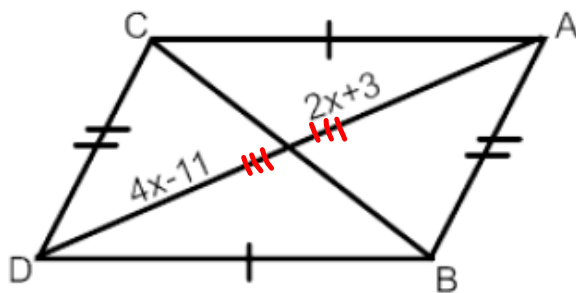
21. Determine what x, y, and z equal.



22. Determine what x equals.



23. Solve for x.



$4x - 11 = 2x + 3$

24. Label each missing angle with the correct angle measure.

