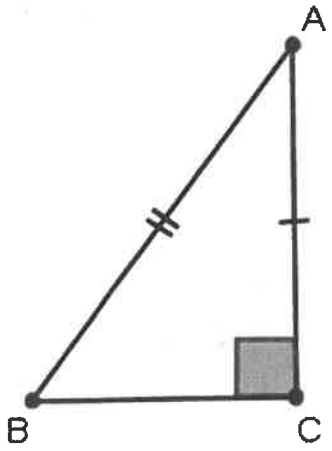
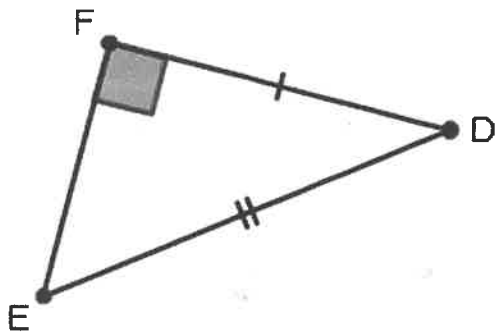
Completed

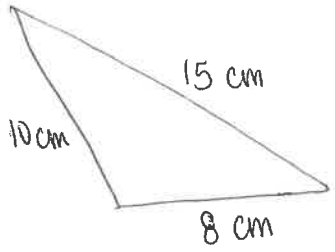
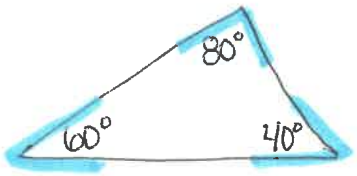
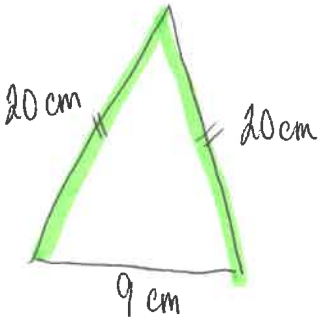
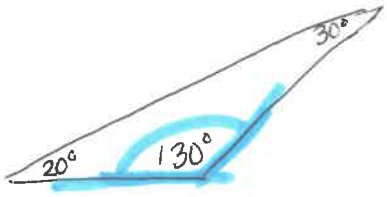
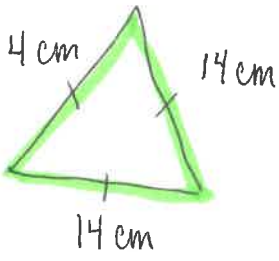
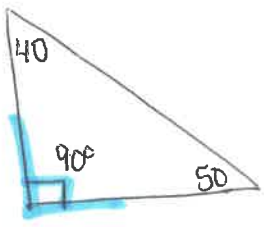
Unit 3: Triangles

		Initial Score	*Updated Score*
1	I can classify triangles by their sides and angles.		
2	I can calculate angles in a triangle.		
3	I can identify congruent triangles.		
4	I can write a congruent triangle proof.		





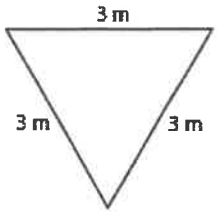
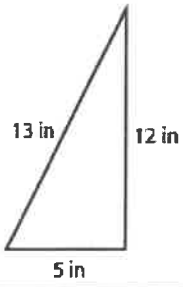
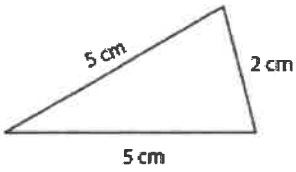
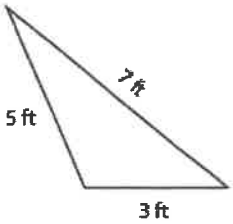
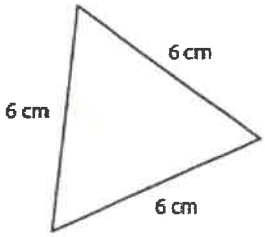
Vocabulary:

By Sides	By Angles
Scalene : no equal sides 	Acute : all angles are acute (less than 90°) 
Isosceles : two equal sides 	Obtuse : one obtuse angle 
Equilateral : three equal sides 	Right : one right (90°) angle 

Vocabulary Practice

Tick the boxes that apply to each triangle.

Sides angles

Triangle	Equilateral	Isosceles	Scalene	Acute	Obtuse	Right
1) 	X			X		
2) 			X			X
3) 		X		X		
4) 			X		X	
5) 	X			X		

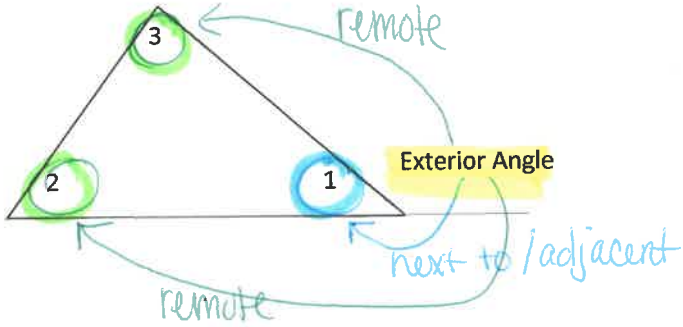
3

Interior & Exterior Angles:

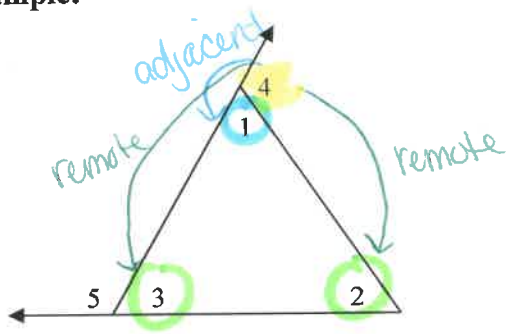
Interior angles of a triangle = add to 180

Types of INTERIOR ANGLES:

- The *adjacent interior angle:* (next to) ∠1
- The *remote interior angles:* (NOT next to) ∠2 & ∠3



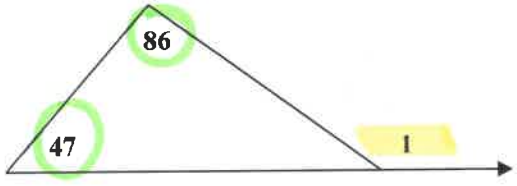
Example:



Exterior Angle	Adjacent Interior Angle	Remote Interior Angles
∠4	∠1	∠2 & ∠3
∠5	∠3	∠1 & ∠2

Exterior angle = Sum of two remote interior angles

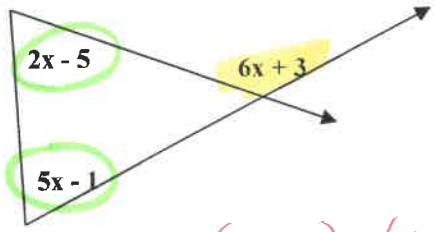
1. $m\angle 1 =$ 133°



m∠1 = 47 + 86

m∠1 = 133°

2. $x =$ 9



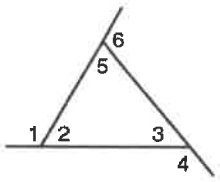
6x + 3 = (2x - 5) + (5x - 1)

6x + 3 = 7x - 6

9 = x

Interior & Exterior Angle Practice:

Use the figure for Exercises 1–3. Name all the angles that fit the definition of each vocabulary word.

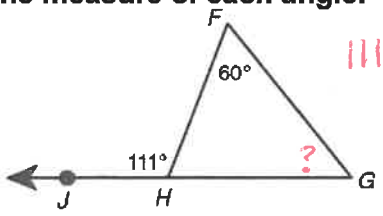


1. exterior angle ∠1, ∠6, ∠4

2. remote interior angles to ∠6 ∠2 & ∠3

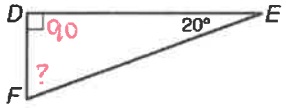
3. adjacent interior angle to ∠6 ∠5

Find the measure of each angle.



$111 = 60 + x$

$51 = x$

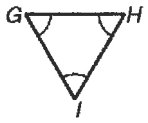


$90 + 20 + x = 180$

$110 + x = 180$

$x = 70$

4. m∠G 51°

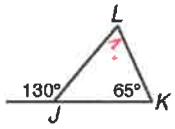


$x + x + x = 180$

$3x = 180$

$x = 60$

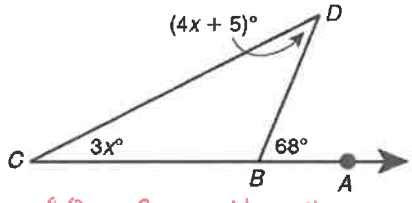
5. m∠F 70°



$130 = 65 + x$

$65 = x$

6. m∠G 60°



$68 = 3x + 4x + 5$

$63 = 7x$

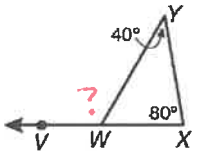
$9 = x$

$4(9) + 5$

$36 + 5$

41

7. m∠L 65°

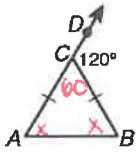


$x = 40 + 80$

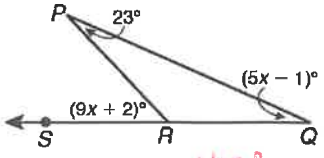
$x = 120$

8. m∠D 41°

9. m∠VWY 120°



10. m∠B 60°



$9x + 2 = 23 + 5x - 1$

$4x = 20$

$x = 5$

11. m∠PRS 47°

$9(5) + 2$

$45 + 2$

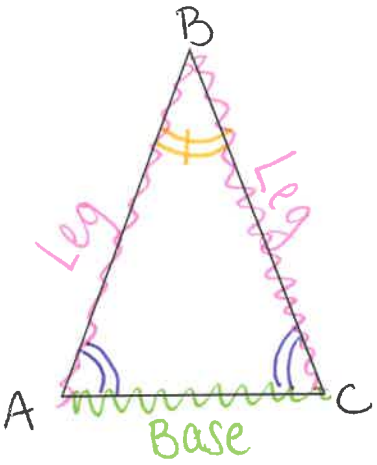
47

STOP

(5)

Isosceles Triangles:

A triangle with two equal sides



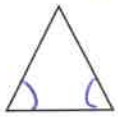
Legs: the two equal sides ($\overline{AB} \cong \overline{BC}$)

Base: the non equal side ($\overline{AC}$)

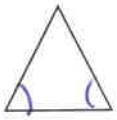
Vertex Angle: the angle formed between the equal sides ($\angle B$)

Base Angles: the angles formed at the base
* Base angles equal ($\angle A \cong \angle C$)

1) If legs equal, then base angles equal.

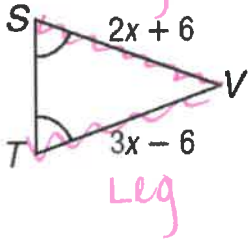
If  then 

2) If base angles equal, then legs equal.

If  then 

Find the value of x in the examples below:

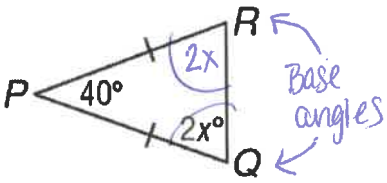
Ex 1)



$2x + 6 = 3x - 6$

$12 = x$

Ex 2)



$40 + 2x + 2x = 180$

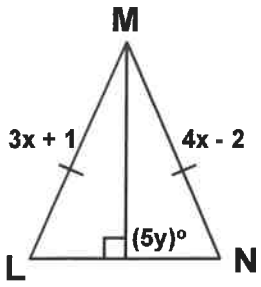
$40 + 4x = 180$

$4x = 140$

$x = 35$

Isosceles Triangles Practice:

1. Solve for x and y.

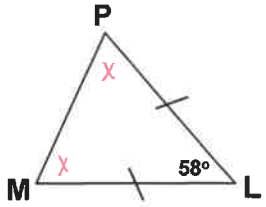


$3x+1 = 4x-2$ $\quad 5y = 90$

$3 = x$ $\quad y = 18$

x = 3 y = 18

2. Find m∠ M and m∠ P.



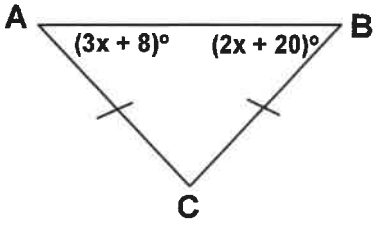
$2x + 58 = 180$

$2x = 122$

$x = 61$

m∠M = 61° m∠ P = 61°

3. Solve for x and find the measure of each angle.



$3x+8 = 2x+20$

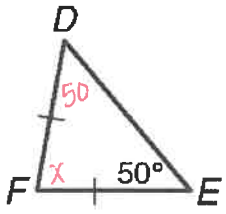
$x = 12$

$180 - 88 = 92$

x = 12 m∠ A = 44°

m∠ B = 44° m∠C = 92°

4. Find the measure of each angle.

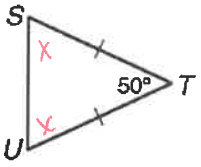


$x + 100 = 180$

$x = 80$

m∠ D = 50° m∠ F = 80°

5. Find the measure of each angle.



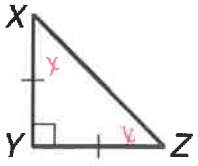
$2x + 50 = 180$

$2x = 130$

$x = 65$

m∠ U = 65° m∠ S = 65°

6. Find the measure of each angle.



$2x + 90 = 180$

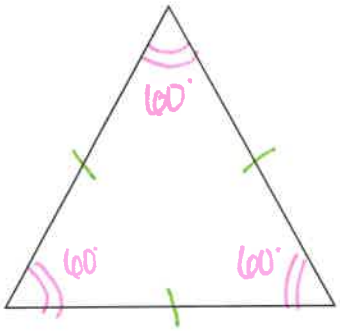
$2x = 90$

$x = 45$

m∠ X = 45° m∠ Z = 45°

Equilateral Triangles:

All 3 sides equal / congruent

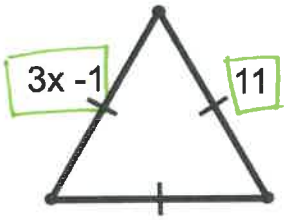


* all 3 angles are equal

* each angle measures 60°
(180 ÷ 3 = 60°)

Find the value of x in the examples below:

Ex 1)



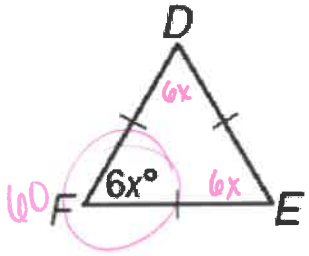
All sides equal

$3x - 1 = 11$

$3x = 12$

$x = 4$

Ex 2)



All angles equal

$6x + 6x + 6x = 180$

$18x = 180$

$x = 10$

Each angle = 60

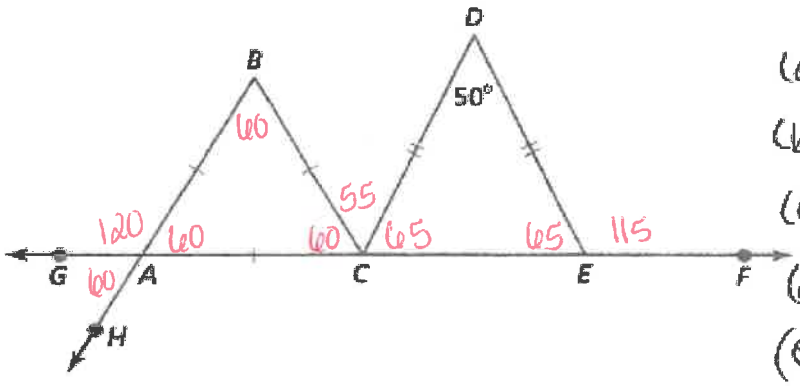
$6x = 60$

$x = 10$

Equilateral Triangles Practice:

Use the figure to find the measure of each angle.

1.



(a) $m\angle BCA = 60°$

(b) $m\angle DCE = 65°$

(c) $m\angle DEF = 115°$

(d) $m\angle BCD = 55°$

(e) $m\angle BAG = 120°$

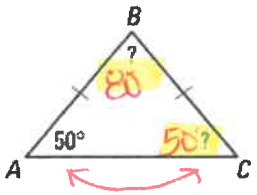
(f) $m\angle GAH = 60°$

2. is every equilateral triangle isosceles? yes is every isosceles triangle equilateral? no Explain

An equilateral triangle (3 equal sides) can be called isosceles because the triangle also has 2 equal sides. It cannot work the other way.

Find the unknown measures.

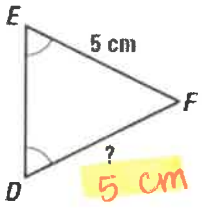
3.



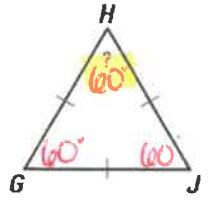
180 − 100 = 80

Base angles

4.

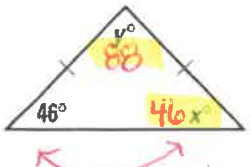


5.



Solve for x and y.

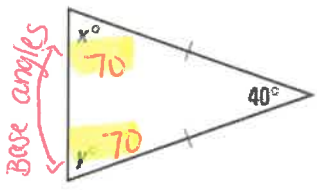
6.



180 − 92 = 88

Base angles

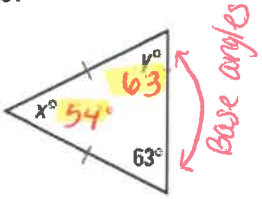
7.



Base angles

180 − 40 = 140 / 2 = 70

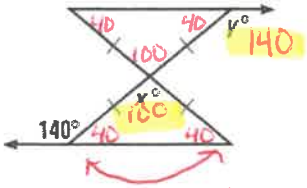
8.



Base angles

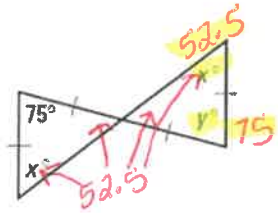
180 − 126 = 54

9.



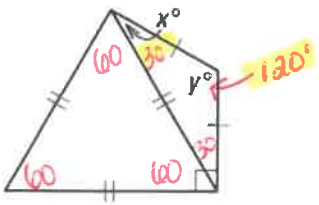
Base angles

10.



180 − 75 = 105 / 2 = 52.5

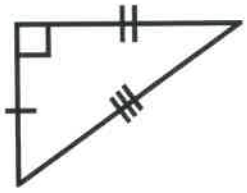
11.



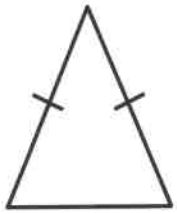
STOP

Mid-Chapter Review:

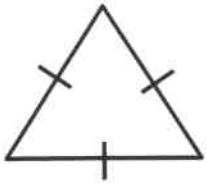
Classify each triangle by its angles (acute, right, obtuse, or equiangular) and its sides (scalene, isosceles, or equilateral).

1. 

Right
Scalene

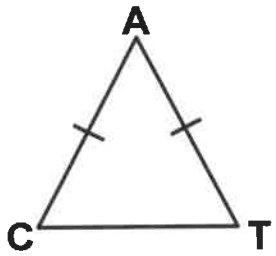
2. 

Acute
Isosceles

3. 

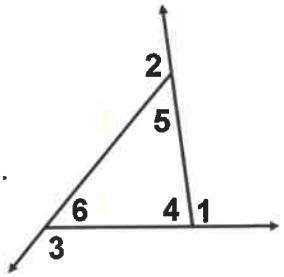
Acute | Equiangular
Equilateral

Name the parts of the isosceles triangle below.



4. Name the base. — 4. $\overline{CT}$
5. Name the legs. — 5. $\overline{CA}$ $\overline{AT}$
6. Name the vertex angle. — 6. $\angle A$
7. Name the base angles. — 7. $\angle C$ $\angle T$

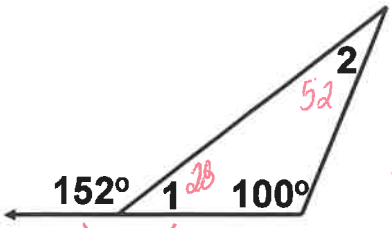
Identify which angle is being described.



8. Name the three interior angles. — 8. $\angle 4$ $\angle 5$ $\angle 6$
9. Name the three exterior angles. — 9. $\angle 1$ $\angle 2$ $\angle 3$
10. Name the interior angle that is adjacent to $\angle 2$. — 10. $\angle 5$
11. Name the two remote interior angles for $\angle 2$. — 11. $\angle 4$ $\angle 6$
12. Name the interior angle that is adjacent to $\angle 1$. — 12. $\angle 4$
13. Name the two remote interior angles for $\angle 1$. — 13. $\angle 5$ $\angle 6$
14. $m\angle 4 + m\angle 5 = m\angle$ _____ — 14. $\angle 3$

Find each indicated measure. Show ALL of your work

15. $m\angle 1 =$ 28 $m\angle 2 =$ 52

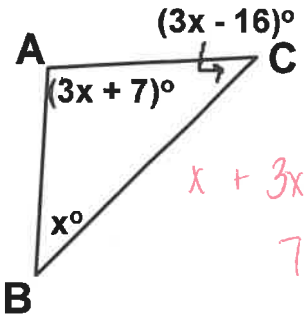


linear pair

180
−128
52

16. x = 27 m∠ A = 88°

m∠ B = 27° m∠ C = 65°



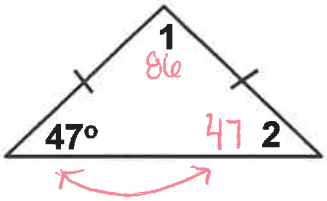
$x + 3x + 7 + 3x - 16 = 180$

$7x - 9 = 180$

$7x = 189$

$x = 27$

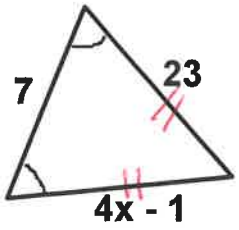
17. $m\angle 1 =$ 86 $m\angle 2 =$ 47



Base angles

180
−94
86

18. x = 6

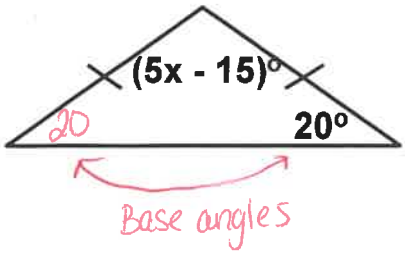


$4x - 1 = 23$

$4x = 24$

$x = 6$

19. x = 31



Base angles

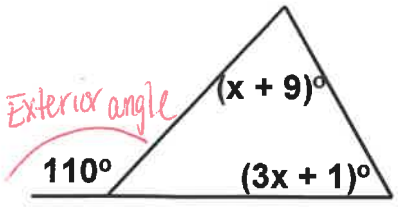
$5x - 15 + 20 + 20 = 180$

$5x + 25 = 180$

$5x = 155$

$x = 31$

20. x = 25



$110 = x + 9 + 3x + 1$

$110 = 4x + 10$

$100 = 4x$

$25 = x$

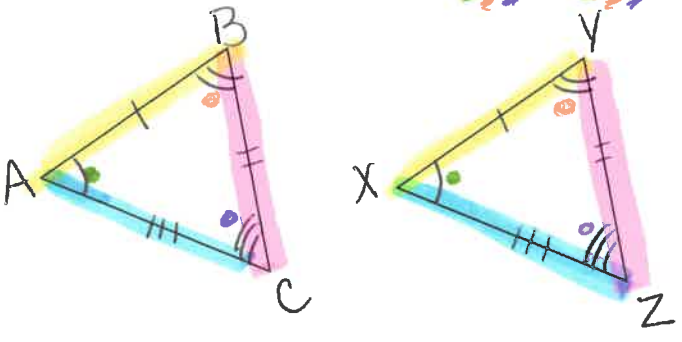
STOP

Congruent Triangles:

**Congruent triangles have 6 Congruent | equal parts

** All 3 sides & all 3 angles are Congruent | equal

ΔABC is congruent to ΔXYZ ($\Delta ABC \cong \Delta XYZ$), name the 6 corresponding parts



3 Angles

$\angle A \cong \angle X$

$\angle B = \angle Y$

$\angle C \cong \angle Z$

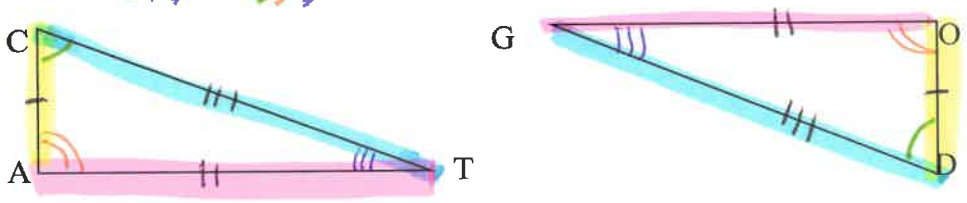
3 Sides

$\overline{AB} \cong \overline{XY}$

$\overline{BC} \cong \overline{YZ}$

$\overline{AC} \cong \overline{XZ}$

Given that $\Delta CAT \cong \Delta DOG$, list the six corresponding parts **and** mark the triangles.



3 Angles

$\angle C \cong \angle D$

$\angle A \cong \angle O$

$\angle T \cong \angle G$

3 Sides

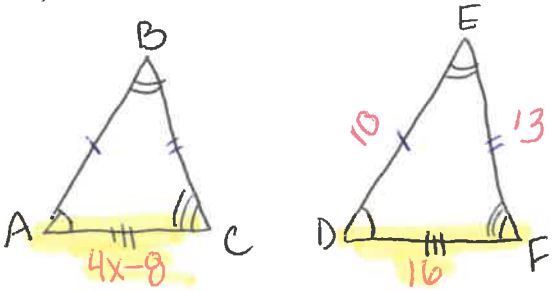
$\overline{CA} \cong \overline{DO}$

$\overline{CT} \cong \overline{DG}$

$\overline{AT} \cong \overline{OG}$

Examples:

1) Given $\Delta ABC \cong \Delta DEF$, DE = 10, EF = 13, DF = 16, and AC = 4x - 8, find *x*.

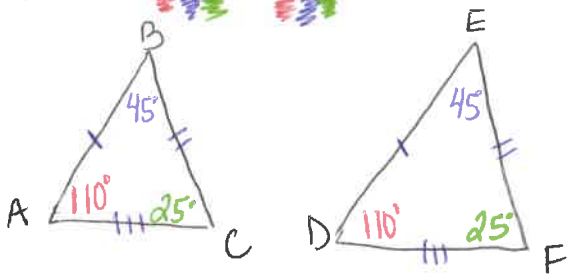


$4x - 8 = 16$

$4x = 24$

$\boxed{x = 6}$

2) Given $\Delta ABC \cong \Delta DEF$, $m\angle A = 110°$ and $m\angle F = 25°$, find the measurement of all the angles.



180
−110
−25
45°

Congruent Triangles Practice:

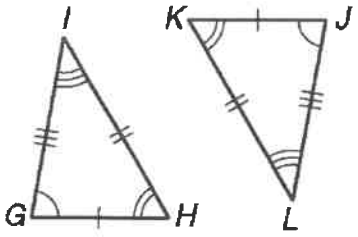
Refer to the figure of $\triangle GHI$ and $\triangle JKL$

1. Name the three pairs of corresponding sides.

$\overline{GH} \cong \overline{KJ}$, $\overline{HI} \cong \overline{KL}$, $\overline{GI} \cong \overline{JL}$

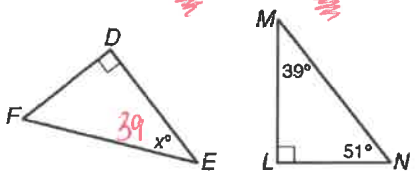
2. Name the three pairs of corresponding angles.

$\angle G \cong \angle J$, $\angle H \cong \angle K$, $\angle I \cong \angle L$



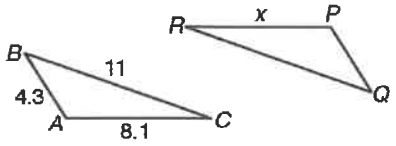
Find the value of *x* given the following congruent triangles.

3. **Given:** $\triangle DEF \cong \triangle LMN$



x = 39

4. **Given:** $\triangle ABC \cong \triangle PQR$



x = 8.1

Given: $\triangle DEF \cong \triangle LMN$.

5. x = 25

y = 24

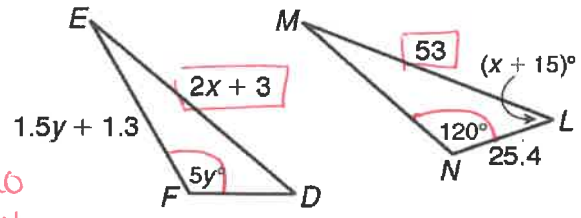
$2x + 3 = 53$

$2x = 50$

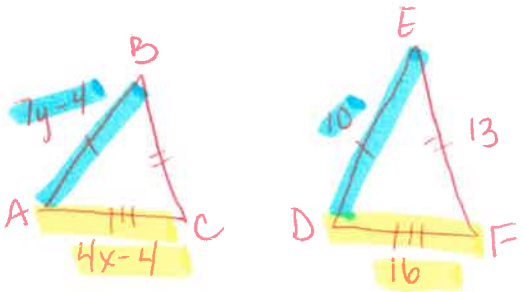
$x = 25$

$5y = 120$

$y = 24$



6. Given $\Delta ABC \cong \Delta DEF$, DE = 10, EF = 13, DF = 16, AB = 7y-4, and AC = 4x-4. Find *x* and *y*.



$4x - 4 = 16$

$4x = 20$

$x = 5$

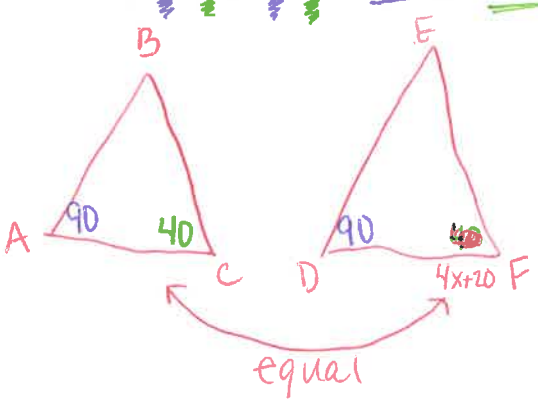
$7y - 4 = 10$

$7y = 14$

$y = 2$

x = 5 y = 2

7. Given $\Delta ABC \cong \Delta DEF$, $m\angle A = 90$, $m\angle C = 40$, and the $m\angle F = 4x + 20$, find *x*.



$4x + 20 = 40$

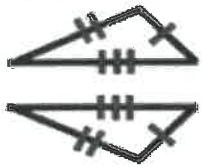
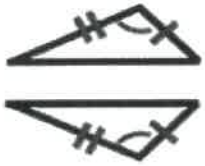
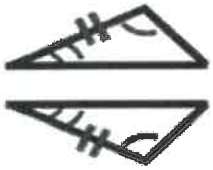
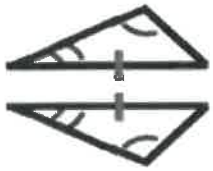
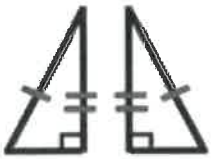
$4x = 20$

$x = 5$

x = 5

STOP

Proving Triangles Congruent:

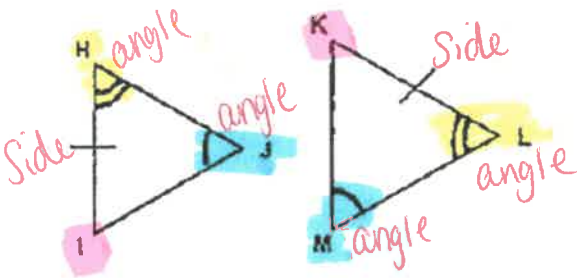
Congruence	Explanation	Diagram
SSS	When two triangles have three corresponding sets of sides congruent, use SSS to say the triangles are congruent.	
SAS	When two triangles have two pairs of sides congruent and the angles between them are congruent, use SAS to say the triangles are congruent.	
ASA	When two triangles have two pairs of angles congruent and the sides between them are congruent, use ASA to say the triangles are congruent.	
AAS	When two triangles have two pairs of angles congruent and the sides not between them are congruent, use AAS to say the triangles are congruent.	
HL	When to right triangles have congruent hypotenuses and a pair of congruent legs, use HL to say the triangles are congruent.	

Are the following pairs of triangles congruent?

1. YES or NO? YES

   Method? AAS

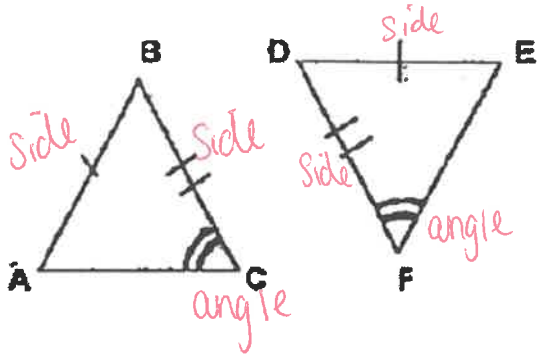
   Δ HIJ $\cong \Delta$ LKM



2. YES or NO? NO

Method? ~~_____~~

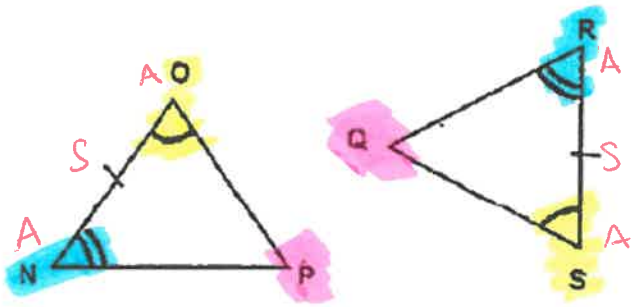
Δ_____ ≅ Δ_____



3. YES or NO? Yes

Method? ASA

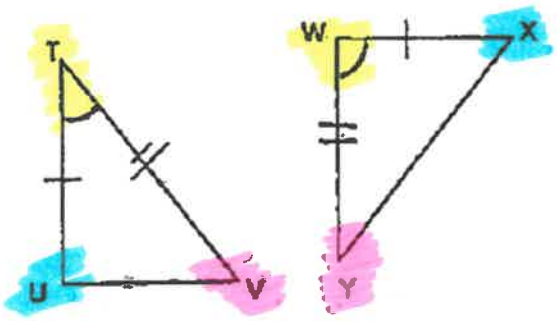
Δ NOP ≅ Δ RSQ



4. YES or NO? yes

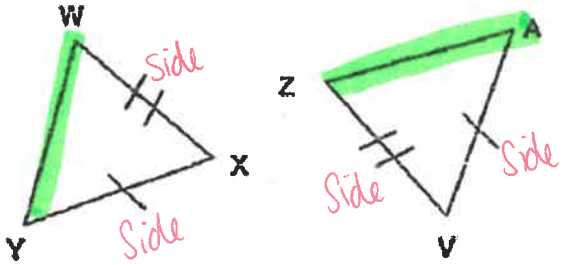
Method? SAS

Δ TUV ≅ Δ WXY



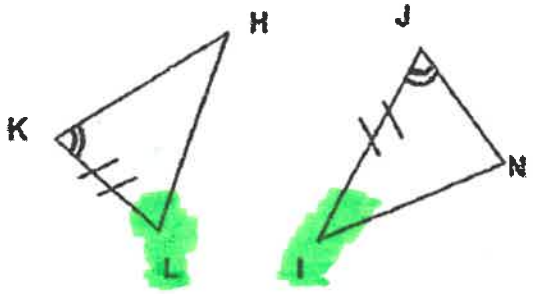
If you were asked to prove the pair congruent by the indicated method, what third corresponding part (side or angle) would have to be congruent?

SSS $\overline{WY} \cong \overline{ZA}$



* need a 3rd side marked

ASA $\angle L \cong \angle I$

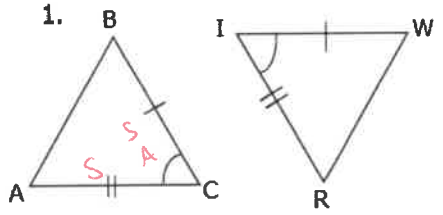


* need angle marked (after side)

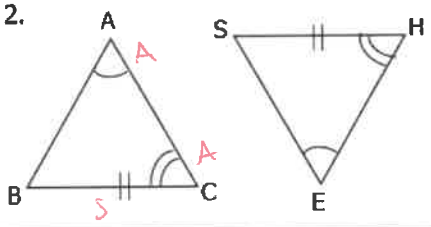
Proving Triangles Congruent Practice:

Proving Triangles Congruent: ASA, AAS, SAS, SSS date: _____

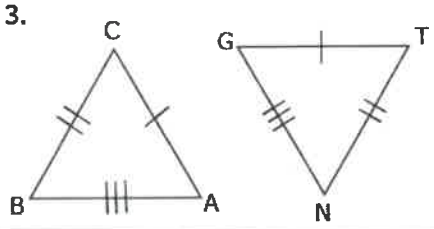
For each problem give the correct naming order of the congruent triangles. Write that name in order on the lines for the problem number (see box at bottom). Also, indicate which postulate or theorem is being used.

1. 

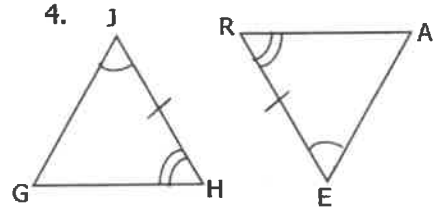
$\Delta ABC \cong \Delta$ RWI by SAS

2. 

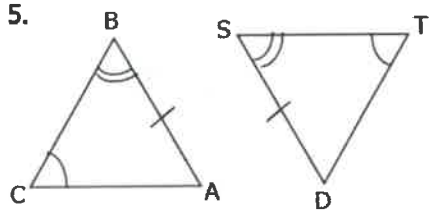
$\Delta ABC \cong \Delta$ ESH by AAS

3. 

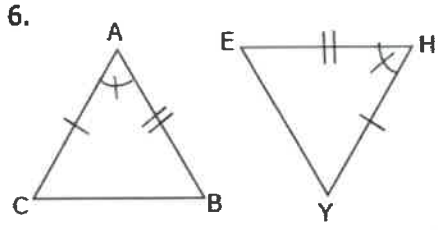
$\Delta ABC \cong \Delta$ GNT by SSS

4. 

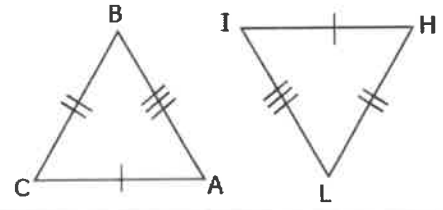
$\Delta GHJ \cong \Delta$ ARE by ASA

5. 

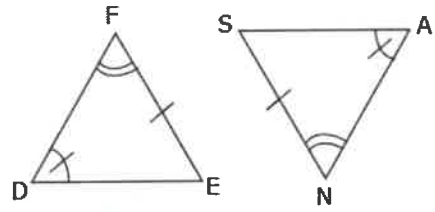
$\Delta ABC \cong \Delta$ DST by AAS

6. 

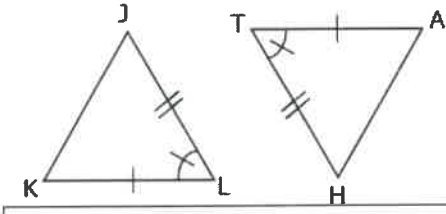
$\Delta ABC \cong \Delta$ HEY by SAS

7. 

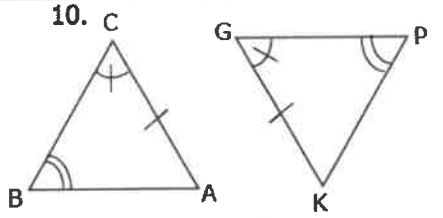
$\Delta ABC \cong \Delta$ ILH by SSS

8. 

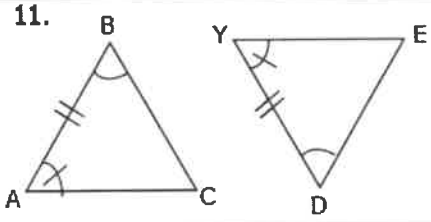
$\Delta DEF \cong \Delta$ ASN by AAS

9. 

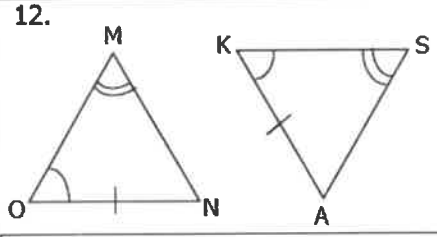
$\Delta JKL \cong \Delta$ HAT by SAS

10. 

$\Delta ABC \cong \Delta$ KPG by AAS

11. 

$\Delta ABC \cong \Delta$ YDE by ASA

12. 

$\Delta MNO \cong \Delta$ SAK by AAS

A	R	E	A	S	O	N	S	N	A	K	E	S	S	H	E	D	I	S	T	H	A	T	T	H
4	4	4	8	8		8	12		12	12	2		2	2		5		5	5	9	9	9		6

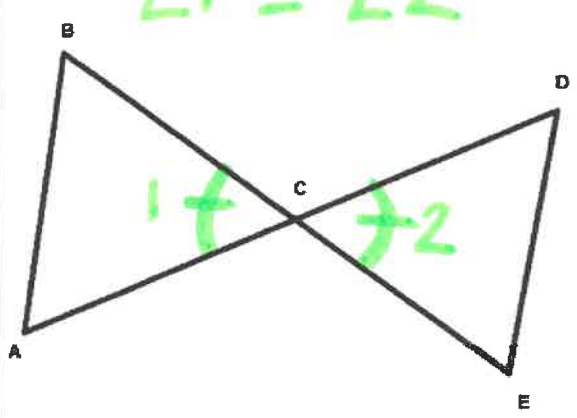
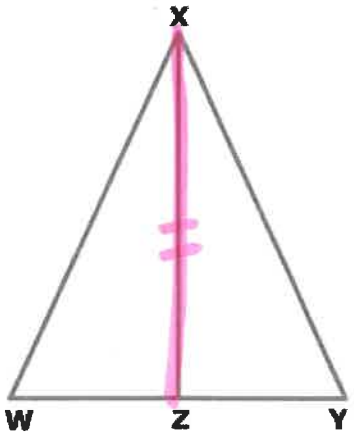
E	Y	K	E	E	P	G	R	O	W	I	N	G	U	N	T	I	L	T	H	E	Y	D	I	E
6	6	10			10	10	1		1	1		3		3	3	7	7		7		11	11		11

(When you are done with the puzzle, there are: 3 SAS, 5 AAS, 2 ASA, and 2 SSS instances.)

STOP

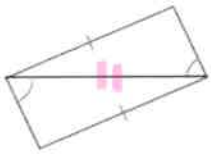
Proving Triangles Congruent Tip Sheet

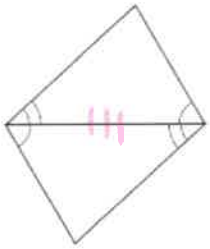
Reflexive property and vertical angles are the only thing in a proof that you can pull out of the picture (don't need in the givens).

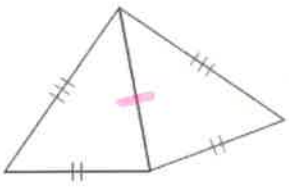
Vertical Angles	Reflexive
If you have vertical angles:	If you have an overlapping side:
$\angle ACB \cong \angle ECD$ $\binom{left}{triangle}$ $\binom{right}{triangle}$	$\overline{XZ} \cong \overline{XZ}$ $\binom{left}{triangle}$ $\binom{right}{triangle}$
$\angle 1 \cong \angle 2$ 	

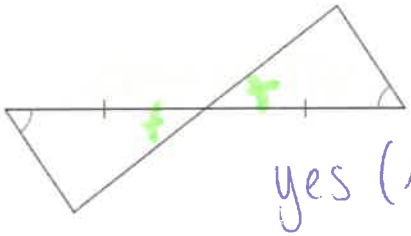
Proving Triangles Congruent Practice (day 2):

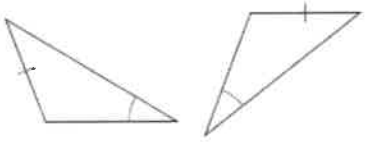
State if the two triangles are congruent. If they are, state how you know.

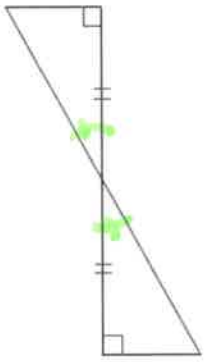
1)  Not ≅

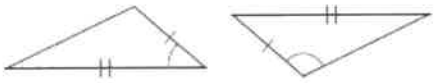
2)  yes (ASA)

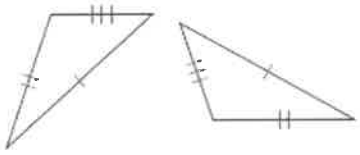
3)  yes (SSS)

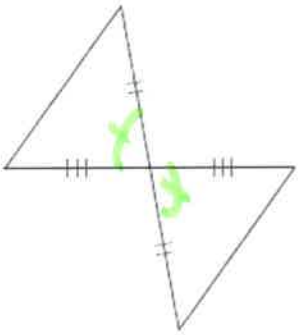
4)  yes (ASA)

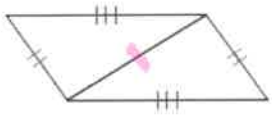
5)  Not ≅

6)  yes (ASA)

7)  Not ≅

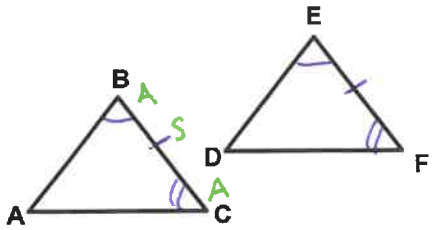
8)  yes (SSS)

9)  yes (SAS)

10)  yes (SSS)

Triangle Proof Practice:

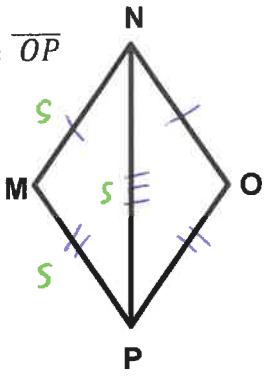
1. Given: $\overline{BC} \cong \overline{EF}$, $\angle B \cong \angle E$, $\angle C \cong \angle F$



Prove: $\triangle ABC \cong \triangle DEF$

	Statement	Reason
S	① $\overline{BC} \cong \overline{EF}$	① Given
A	② $\angle B \cong \angle E$	② Given
A	③ $\angle C \cong \angle F$	③ Given
	④ $\triangle ABC \cong \triangle DEF$	④ ASA

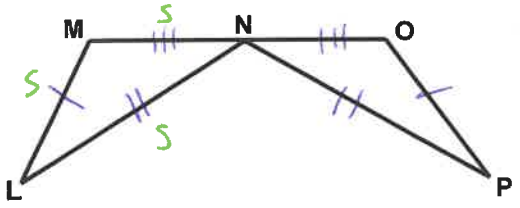
2. Given: $\overline{MN} \cong \overline{NO}$, $\overline{MP} \cong \overline{OP}$



Prove: $\triangle MNP \cong \triangle ONP$

	Statement	Reason
S	① $\overline{MN} \cong \overline{NO}$	① Given
S	② $\overline{MP} \cong \overline{OP}$	② Given
S	③ $\overline{NP} \cong \overline{NP}$	③ Reflexive
	④ $\triangle MNP \cong \triangle ONP$	④ SSS

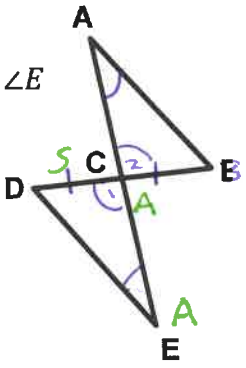
3. Given: N is the midpoint of $\overline{MO}$, $\overline{LM} \cong \overline{OP}$, $\overline{LN} \cong \overline{PN}$



Prove: $\triangle LMN \cong \triangle PON$

	Statement	Reason
	① N is mdpt MO	① Given
S	② $\overline{LM} \cong \overline{OP}$	② Given
S	③ $\overline{LN} \cong \overline{PN}$	③ Given
S	④ $\overline{MN} \cong \overline{NO}$	④ definition of mdpt
	⑤ $\triangle LMN \cong \triangle PON$	⑤ SSS

4. Given: $\overline{AE}$ bisects $\overline{BD}$, $\angle A \cong \angle E$

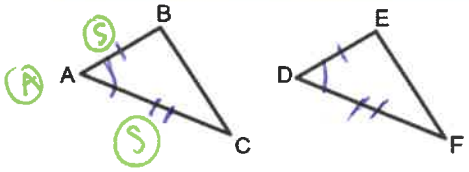


Prove: $\triangle ABC \cong \triangle EDC$

	Statement	Reason
	① $\overline{AE}$ bisect $\overline{BD}$	① Given
A	② $\angle A \cong \angle E$	② Given
S	③ $\overline{DC} \cong \overline{CB}$	③ definition of bisect
A	④ $\angle 1 \cong \angle 2$	④ Vertical angles Congruent
	⑤ $\triangle ABC \cong \triangle EDC$	⑤ AAS

Triangle Proofs:

Given: $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$, and $\angle A \cong \angle D$

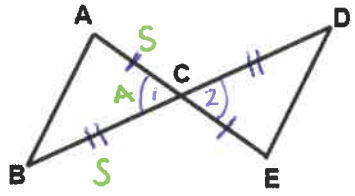


Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
Side → (1) $\overline{AB} \cong \overline{DE}$	(1) Given
Side → (2) $\overline{AC} \cong \overline{DF}$	(2) Given
angle → (3) $\angle A \cong \angle D$	(3) Given
(4) $\triangle ABC \cong \triangle DEF$	(4) SAS

* Use picture to determine Shortcut

Given: $\overline{AC} \cong \overline{CE}$, $\overline{DC} \cong \overline{BC}$



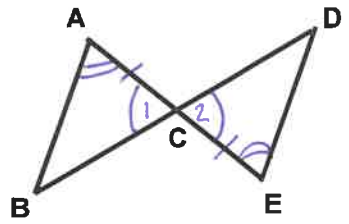
Prove: $\triangle BAC \cong \triangle DEC$

Statements	Reasons
Side → (1) $\overline{AC} \cong \overline{CE}$	(1) Given
Side → (2) $\overline{DC} \cong \overline{BC}$	(2) Given
angle → (3) $\angle 1 \cong \angle 2$	(3) Vertical angles $\cong$
(4) $\triangle BAC \cong \triangle DEC$	(4) SAS

* Vertical angle

Triangle Proof Practice (day 2):

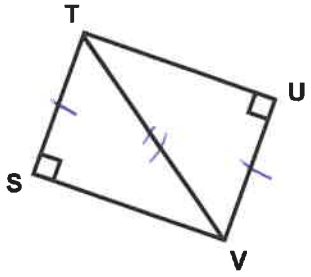
1. Given: $\angle A \cong \angle E$, $\overline{AC} \cong \overline{EC}$



Prove: $\triangle ABC \cong \triangle EDC$

Statement	Reason
(1) $\angle A \cong \angle E$	(1) Given
(2) $\overline{AC} \cong \overline{EC}$	(2) Given
(3) $\angle 1 \cong \angle 2$	(3) Vertical angles congruent
(4) $\triangle ABC \cong \triangle EDC$	(4) ASA

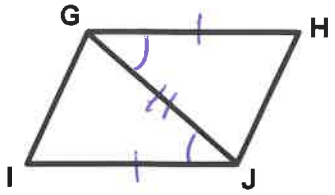
2. Given: $\overline{ST} \cong \overline{VU}$, $\angle S \cong \angle U$



Prove: $\triangle TSV \cong \triangle VUT$

Statement	Reason
(1) $\overline{ST} \cong \overline{VU}$	(1) Given
(2) $\angle S \cong \angle U$	(2) Given
(3) $\overline{TV} \cong \overline{TV}$	(3) Reflexive
(4) $\triangle TSV \cong \triangle VUT$	(4) HL

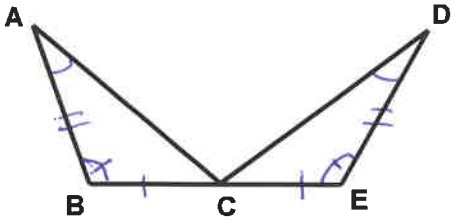
3. Given: $\overline{GH} \cong \overline{IJ}$, $\angle IJG \cong \angle JGH$



Prove: $\triangle IGJ \cong \triangle HJG$

Statement	Reason
(1) $\overline{GH} \cong \overline{IJ}$	(1) Given
(2) $\angle IJG \cong \angle JGH$	(2) Given
(3) $\overline{GJ} \cong \overline{GJ}$	(3) Reflexive
(4) $\triangle IGJ \cong \triangle HJG$	(4) SAS

4. Given: C is the midpoint of $\overline{BE}$, $\angle A \cong \angle D$, $\overline{AB} \cong \overline{DE}$ $\angle B \cong \angle E$



Prove: $\triangle ABC \cong \triangle DEC$

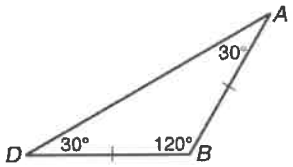
Statement	Reason
(1) C is the mdpt of $\overline{BE}$	(1) Given
(2) $\angle B \cong \angle E$	(2) Given
(3) $\overline{AB} \cong \overline{DE}$	(3) Given
(4) $\overline{BC} \cong \overline{CE}$	(4) definition of mdpt
(5) $\triangle ABC \cong \triangle DEC$	(5) SAS

STOP

Unit 3: Triangle Review

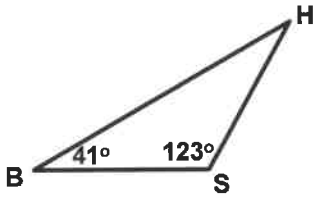
1. What type of triangle is ΔABD?

   A. acute
   B. Equiangular
   C. Obtuse
   D. Right



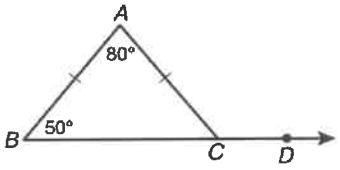
2. What is the measure of $\angle H$?

   A. 16°
   B. 41°
   C. 20°
   D. 196°



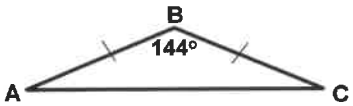
3. What is $m\angle ACD$?

   A. 100°
   B. 130°
   C. 80°
   D. 50°



4. What is the measure of $\angle A$?

   A. 144°
   B. 36°
   C. 18°
   D. 108°

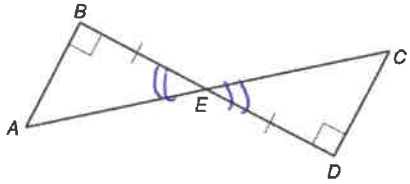


5. Given: $\angle A \cong \angle D$, $\angle B \cong \angle E$, which is a correct congruence statement?

   A. $\Delta BCA \cong \Delta DEF$
   B. $\Delta ABC \cong \Delta DEF$
   C. $\Delta CBA \cong \Delta DEF$
   D. $\Delta ACB \cong \Delta DEF$

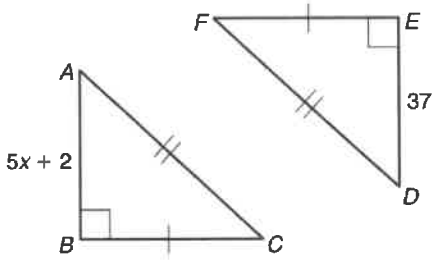
6. Which postulate or theorem can you use to prove $\Delta ABE \cong \Delta CDE$?

   A. SSS
   B. SAS
   C. ASA
   D. AAS



7. Which value for x proves that $\Delta ABC \cong \Delta DEF$ by SSS?

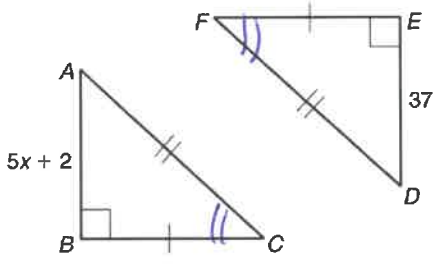
   A. 7
   B. 37
   C. 5
   D. 8



$5x+2=37$
$5x=35$
$x=7$

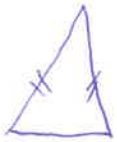
8. What additional information would allow you to prove the triangles congruent by SAS?

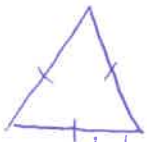
   A. $\angle E \cong \angle D$
   B. $\angle D \cong \angle C$
   C. $\angle D \cong \angle A$
   D. $\angle F \cong \angle C$



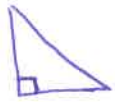
9. Draw an example of a scalene, isosceles, and equilateral triangle


Scalene

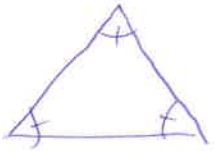

Isosceles


Equilateral

10. Draw an example of a right, obtuse, and equiangular triangle

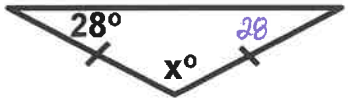

Right


Obtuse


Equiangular

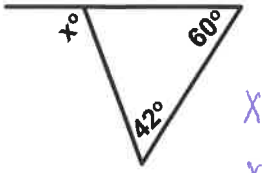
Find x in each triangle.

11.



180
- 28
- 28
124°

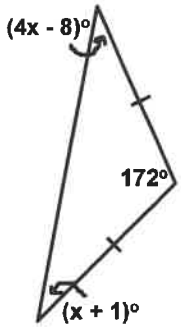
12.



$x = 42 + 60$

$x = 102°$

13.



$4x - 8 = x + 1$

$3x = 9$

$x = 3$

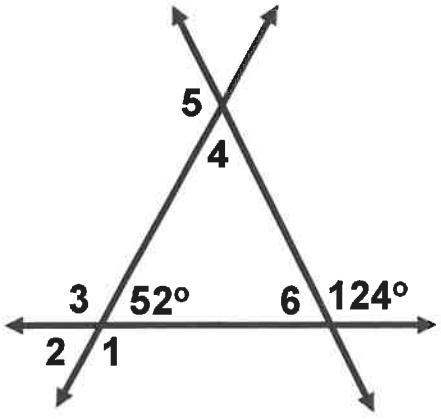
14.

$4x - 1 = 23$

$4x = 24$

$x = 6$

15. Find each angle measure.



m∠ 1 = 128°

m∠ 2 = 52°

m∠ 3 = 128°

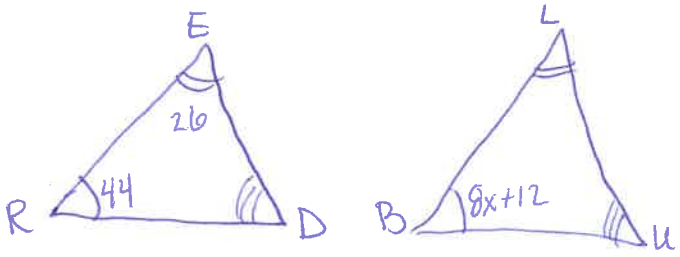
m∠ 4 = 72°

m∠ 5 = 108°

m∠ 6 = 56°

Draw and label each triangle.

16. ▲RED ≅ ▲BLU, m∠ R = 44°, m∠ E = 26°, and m∠ B = (8x + 12)°. Solve for x.

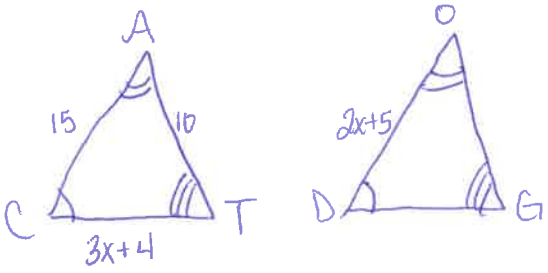


$8x+12=44$

$8x=32$

$x=4$

17. ▲CAT ≅ ▲DOG, $\overline{CT} = 3x + 4$, $\overline{CA} = 15$, $\overline{AT} = 10$, and $\overline{DO} = 2x + 5$. Solve for x.



$2x+5=15$

$2x=10$

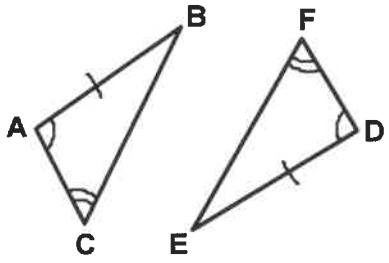
$x=5$

Identify which method will prove each of the following triangles to be congruent (SSS, SAS, ASA, AAS, RHL, or none). Include any additional tick marks if needed.

18. YES or NO? yes

Method? AAS

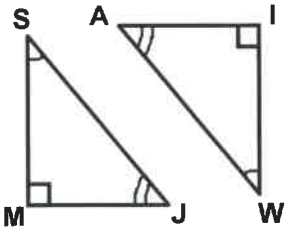
▲ABC ≅ ▲ DEF



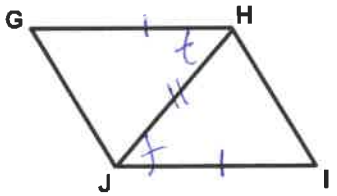
19. YES or NO? No

Method? _____

▲MSJ ≅ ▲_____



20. Given: $\overline{GH} \cong \overline{JI}$, $\angle GHJ \cong \angle IJH$



Prove: $\Delta GHJ \cong \Delta IJH$

Statement	Reason
① $\overline{GH} \cong \overline{JI}$	① Given
② $\angle GHJ \cong \angle IJH$	② Given
③ $\overline{JH} \cong \overline{JH}$	③ Reflexive
④ $\Delta GHJ \cong \Delta IJH$	④ SAS

Name: _____

Unit 3 Reflection

What skills went well in this unit? Circle all the skills that you were successful with on the test.	**What were you most proud of in this unit?**
Classifying triangles by sides and angles Calculating sides/angles in a triangle Identifying and calculating with congruent triangles Proofs with congruent triangles	Organization Completion of practice problems (HW) Participation Positive attitude Showing growth Other: _____
Looking at the skills above. What skills do you still need more practice with moving forward (use both columns)?	
Action plan:	