FOUNDATIONS OF MATH 2

UNIT 3 OUTLINE

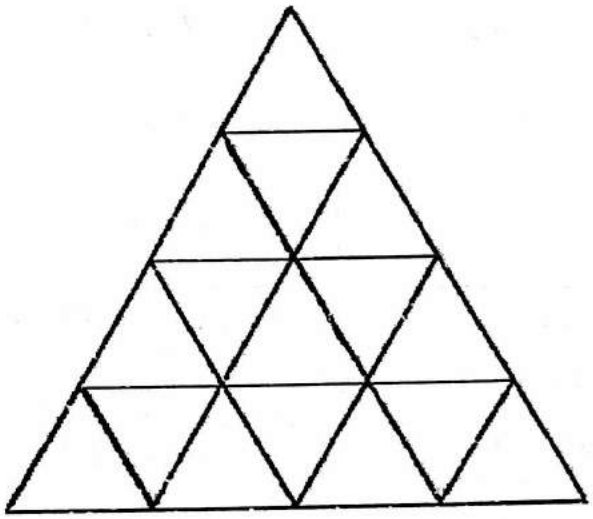
DAY	DATE	TOPIC	HOMEWORK
1		Angles in a Triangle	KUTA Angles in a Triangle (Pages 4-6)
2		Similar Figures Scale Factor	KUTA Similar Polygons (Pages 10-11)
3		Similar Triangles	KUTA Similar Figures (Pages 17-19)
4		**QUIZ #1** Midsegments	3.4 Show What You Know! (Page 28)
5		Midsegment Practice	Midsegment Workshcet #2 (Pages 35-36)
6		Congruent Figures	KUTA Congruence & Triangles (Pages 40-41)
7		Triangle Congruence	KUTA SSS, SAS, ASA, AAS (Pages 47-48)
8		**QUIZ #2** Review	Congruent Triangles Practice (Page 51)
9		Review	STUDY!!!!
10		**UNIT 3 TEST**	TBD
11		Project Day	WORK ON PROJECT
12		PROJECT DUE!	WORK ON PROJECT

Name: _____

Day 1 Warm Up

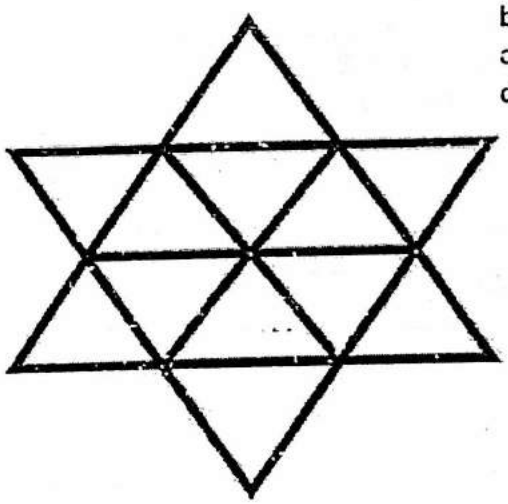
How many triangles are in the pictures below?

1.



a. 16
b. 21
c. 26
d. 27

2.



a. 12
b. 18
c. 20
d. 24

Day 1 Notes

Congruent vs Similar:

Shapes are _____ when they are the same size.

When we _____, _____, or _____ a figure/shape the pre-image and the image are _____.

Two shapes are _____ when the only difference is size. ("resizing")

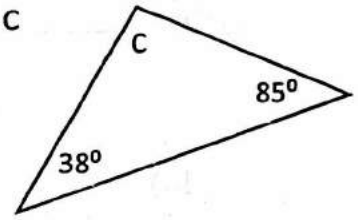
Are congruent shapes also similar??? _____

Triangle Angle Sum Theorem

In a triangle, the three interior angles always add to 180°

Example 1:

Find the missing angle C



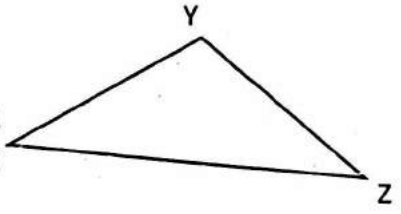
Example 2:

$m\angle X = 2x + 24$

$m\angle Y = 3x$

$m\angle Z = x + 15$

Solve for x.



Kuta Software

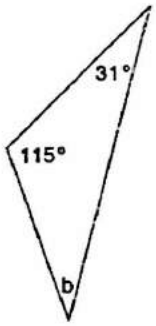
Name_____

Angle Sum of Triangles

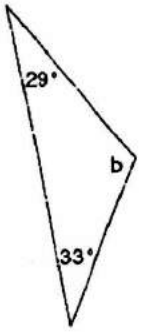
Date_____ Period____

Find the measure of angle b.

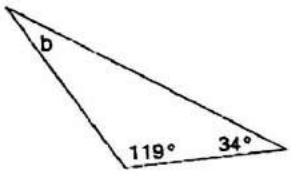
1)



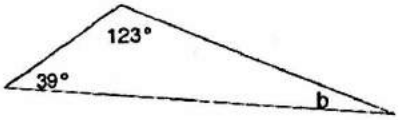
2)



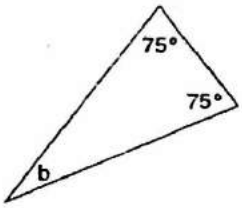
3)



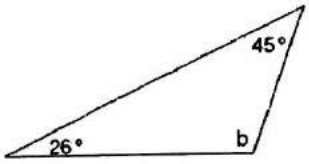
4)



5)

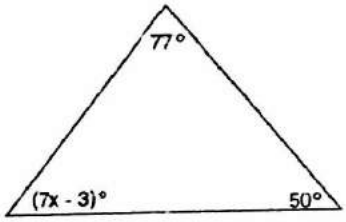


6)

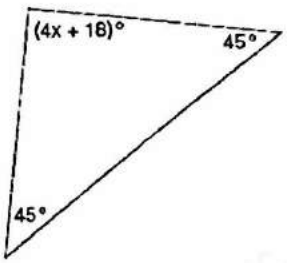


Find the value of x.

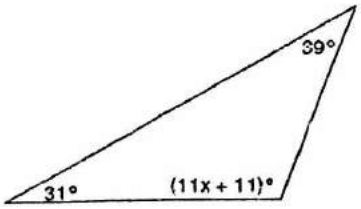
13)



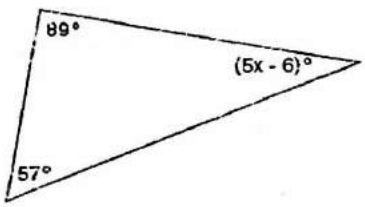
14)



15)



16)



Kuta Software - Infinite Geometry

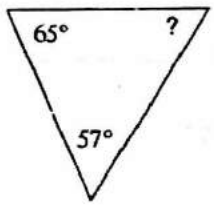
Name_____

Angles in a Triangle

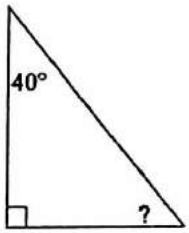
Date_____ Perio

Find the measure of each angle indicated.

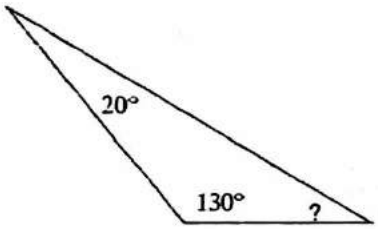
1)



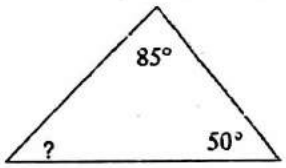
2)



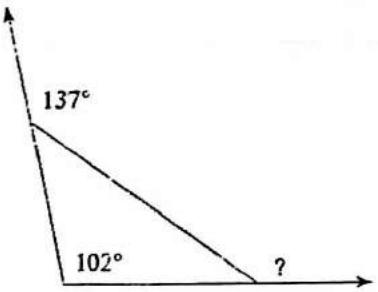
3)



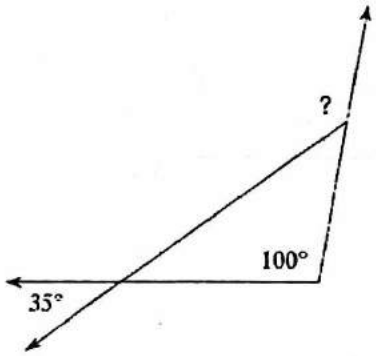
4)



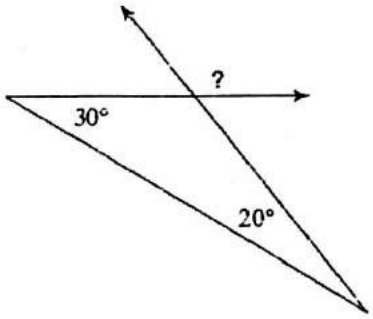
5)



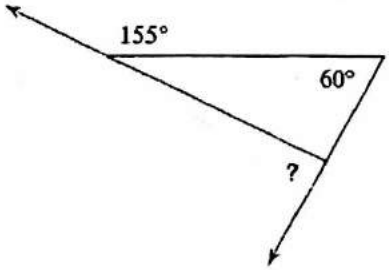
6)



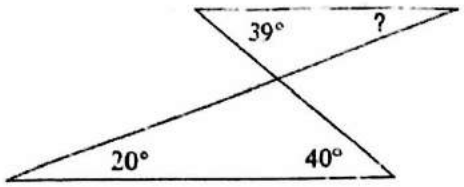
7)



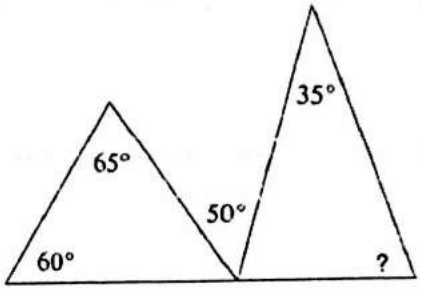
8)



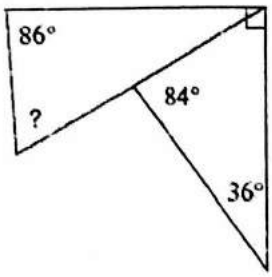
9)



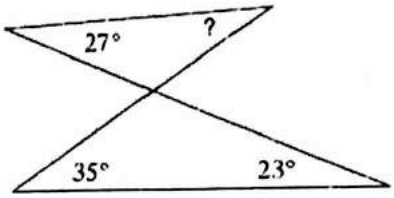
10)



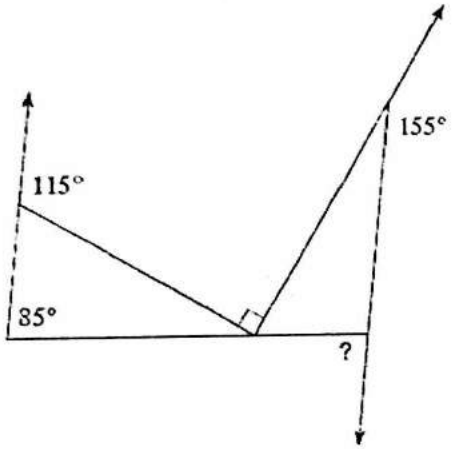
11)



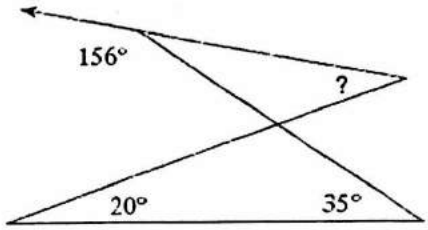
12)



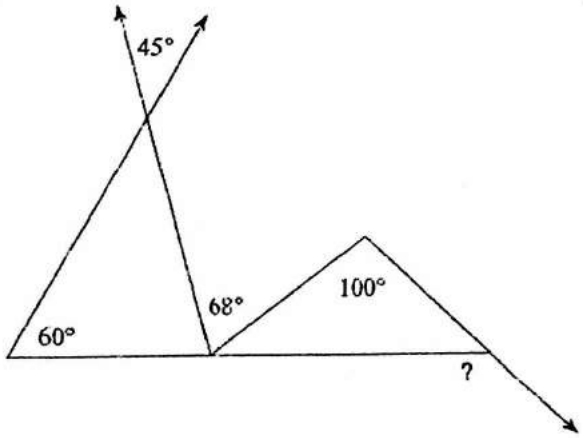
13)



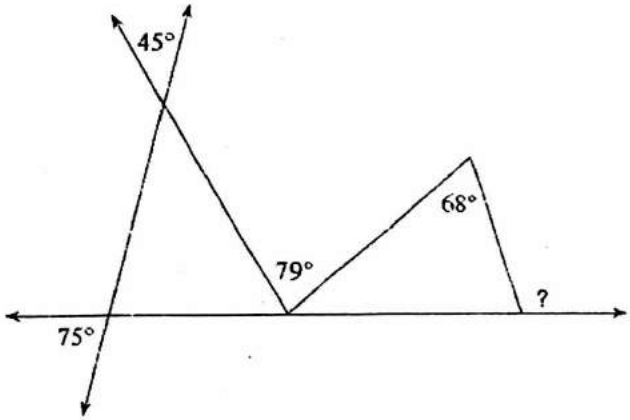
14)



15)

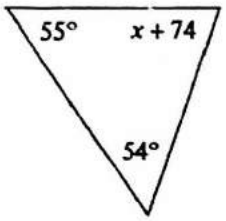


16)

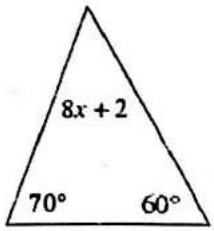


Solve for x.

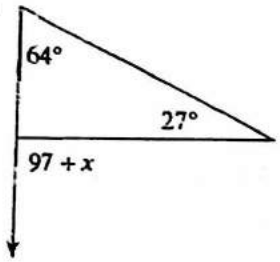
17)



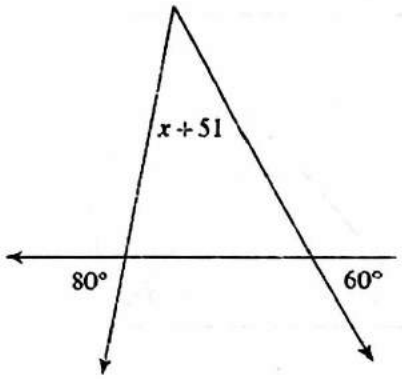
18)



19)

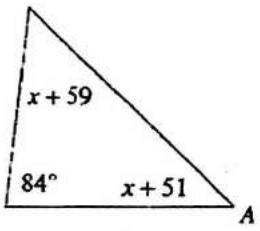


20)

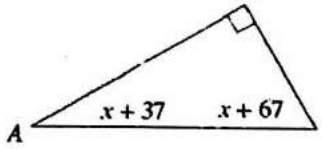


Find the measure of angle A.

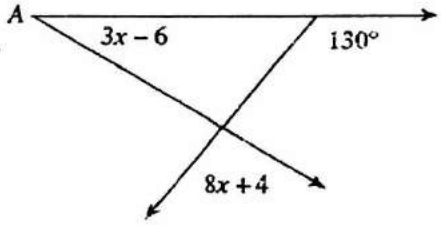
21)



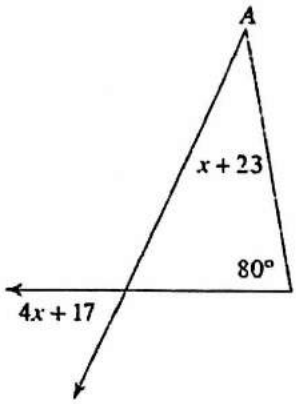
22)



23)

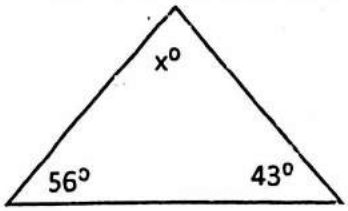


24)

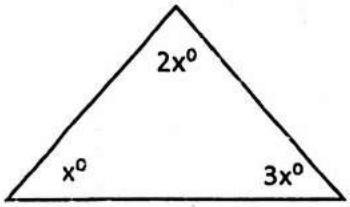


Day 2 Warm Up

1. Find the measure of angle x.



2. Solve for x.



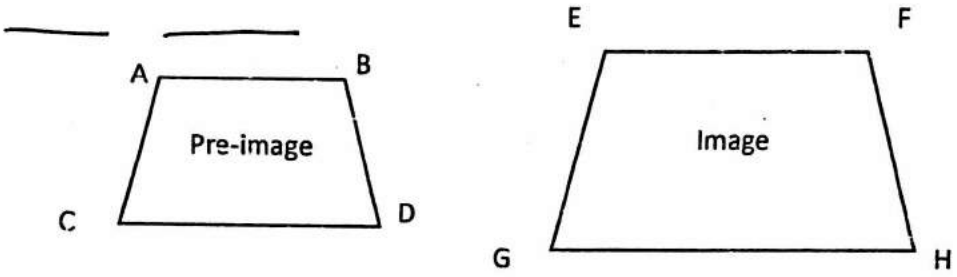
Day 2 Notes

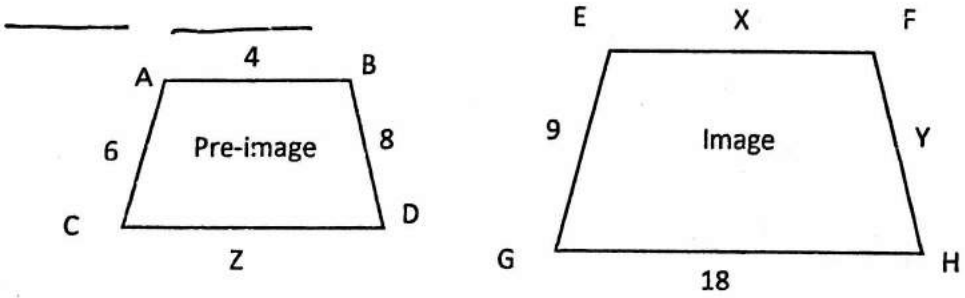
Similar Polygons Properties:

1.

2.

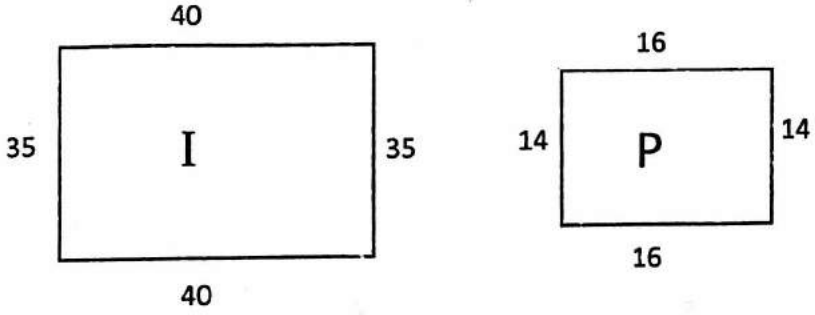
Exploration





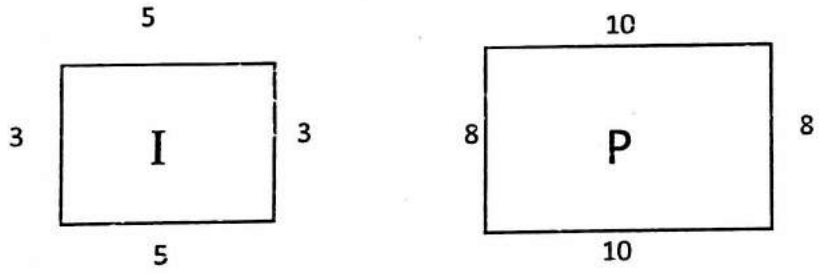
Example 1:

State if the polygons are similar. Explain your reasoning.

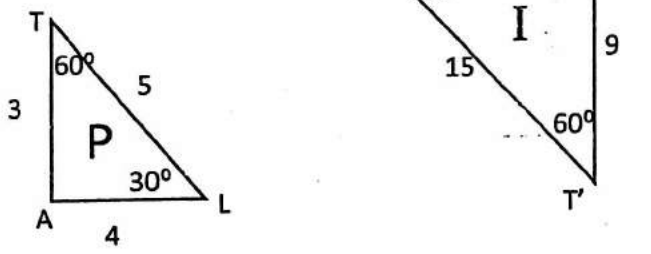


Example 2:

State if the polygons are similar. Explain your reasoning.



Example 3:



Kuta Software - Infinite Geometry

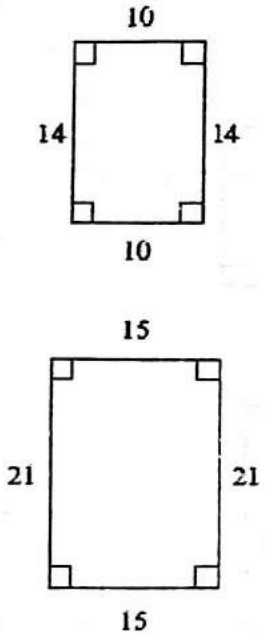
Name_____

Similar Polygons

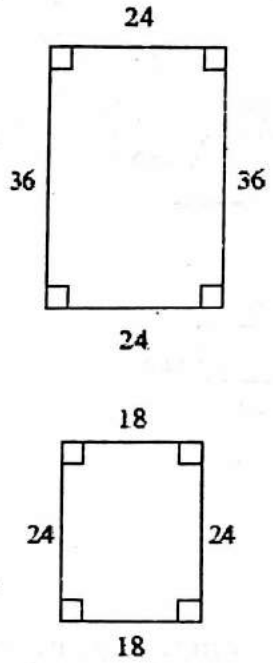
Date_____

State if the polygons are similar. Explain why or why not for each pair.

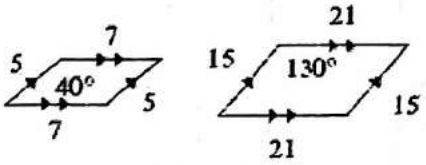
1)



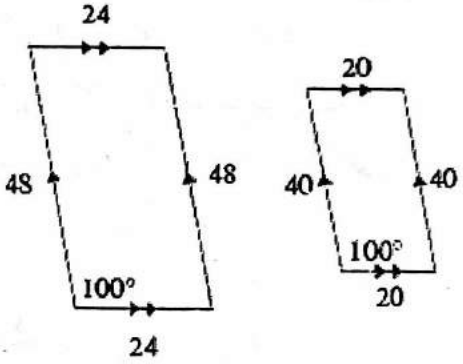
2)



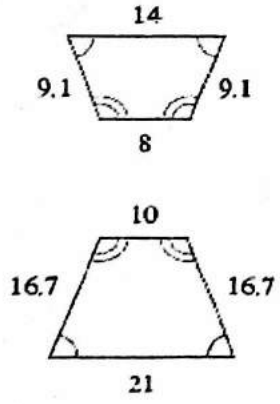
3)



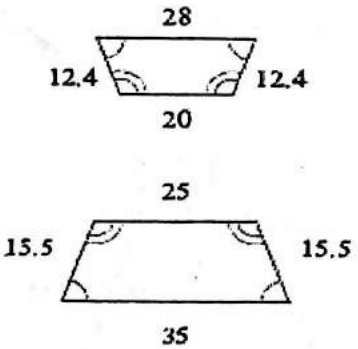
4)



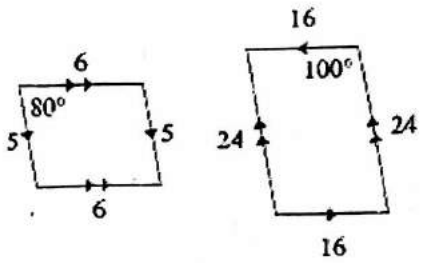
5)



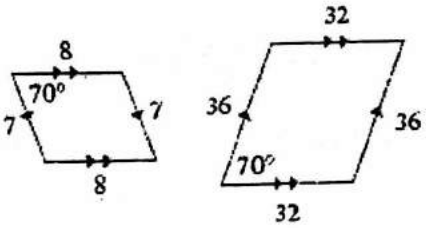
6)



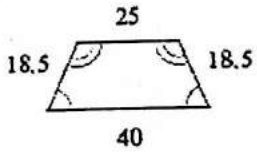
7)

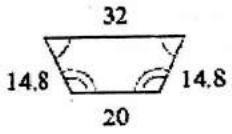


8)

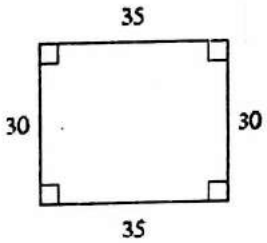


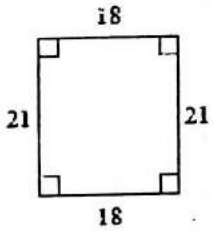
9)





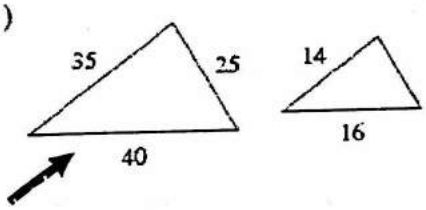
10)



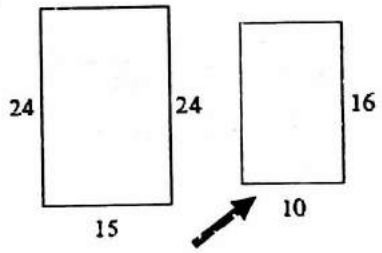


The polygons in each pair are similar. Find the scale factor. The pre-image is indicated by an arrow.

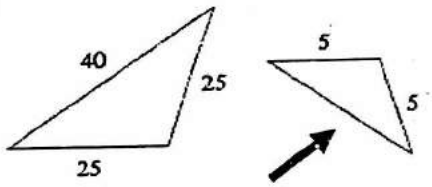
11)



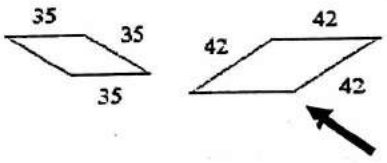
12)



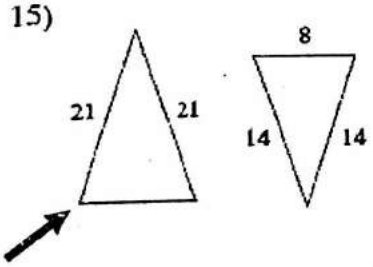
13)



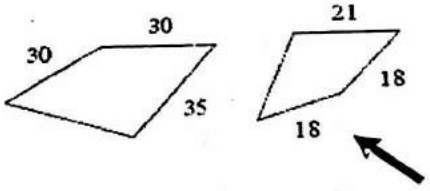
14)



15)



16)



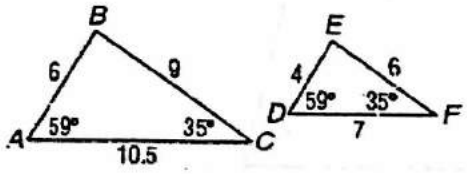
NAME _____ DATE _____ PERIOD ____

7-2 Skills Practice

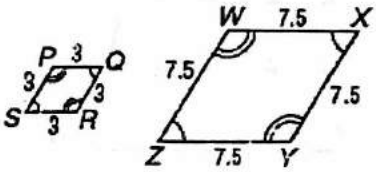
Similar Polygons

Determine whether each pair of figures is similar. Justify your answer.

1.

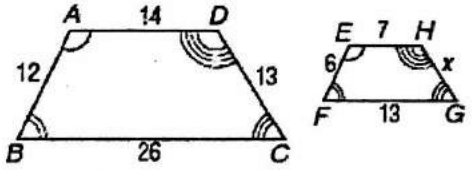


2.

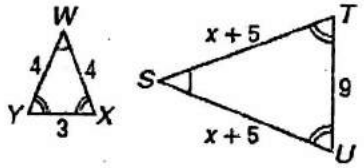


Each pair of polygons is similar. Write a similarity statement, and find x, the measure(s) of the indicated side(s), and the scale factor.

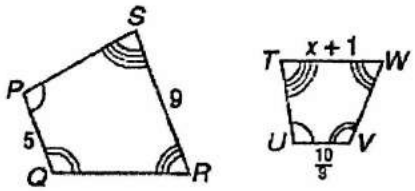
3. $\overline{GH}$



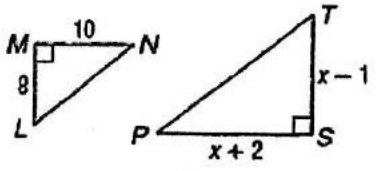
4. $\overline{ST}$ and $\overline{SU}$



5. $\overline{WT}$

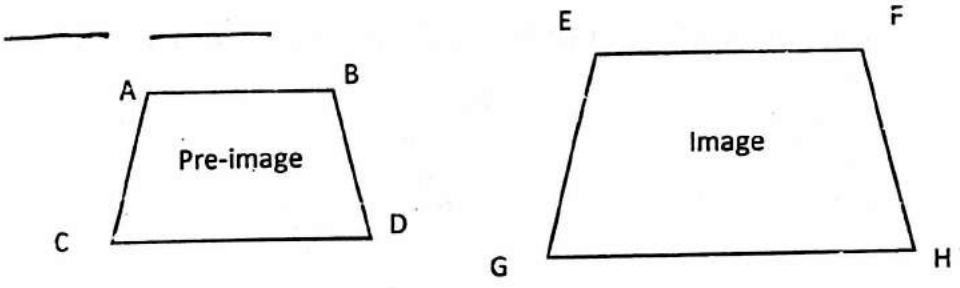


6. $\overline{TS}$ and $\overline{SP}$



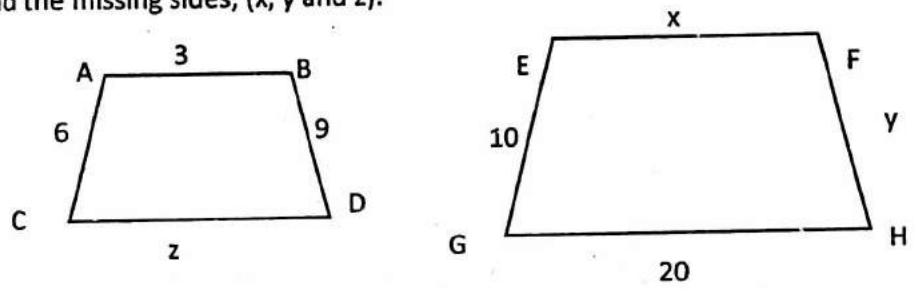
Day 3 Notes

Similar Figures



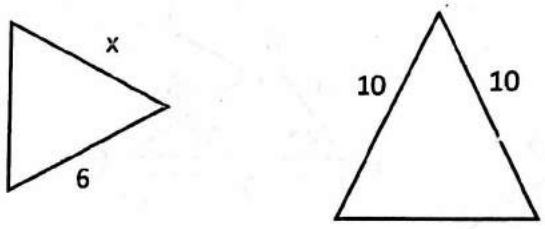
Finding Sides of Similar Figures

Find the missing sides, (x, y and z).



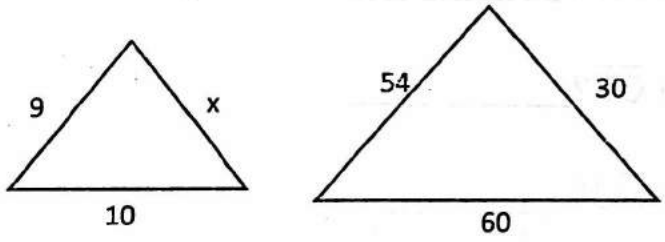
Example 1:

Each pair of figures is similar. Find the missing side.



Example 2:

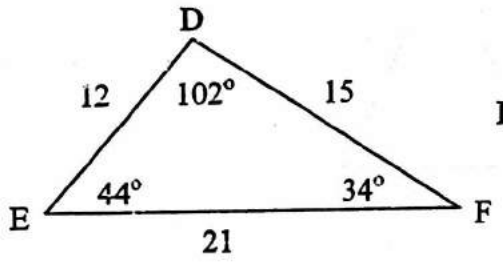
Each pair of figures is similar. Find the missing side.

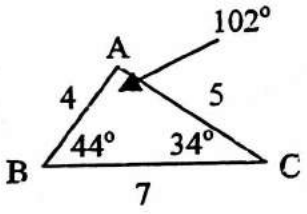


Foundations of Math 2 Name _____

Unit 3 ~ Exploring Similar Figures

Use the triangles below to answer the following questions.





1. Which angle corresponds to $\angle A$? _____

2. Which angle corresponds to $\angle B$? _____

3. Which angle corresponds to $\angle C$? _____

4. Does each angle and its corresponding angle have the same measurement, Yes or NO?

5. Which side corresponds to $\overline{AB}$? _____

6. Which side corresponds to $\overline{CB}$? _____

7. Which side corresponds to $\overline{AC}$? _____

8. What is the ratio of side $\overline{AB}$ length to the length of it corresponding side? _____

9. What is the ratio of side $\overline{BC}$ length to the length of it corresponding side? _____

10. What is the ratio of side $\overline{AC}$ length to the length of it corresponding side? _____

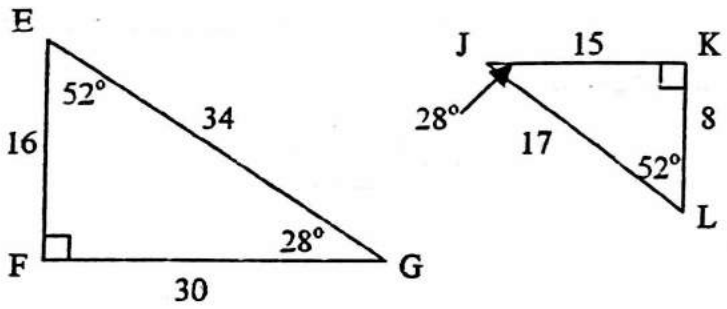
11. What are the ratios equal to in lowest terms? _____

12. Are all three ratios equal, Yes or NO?

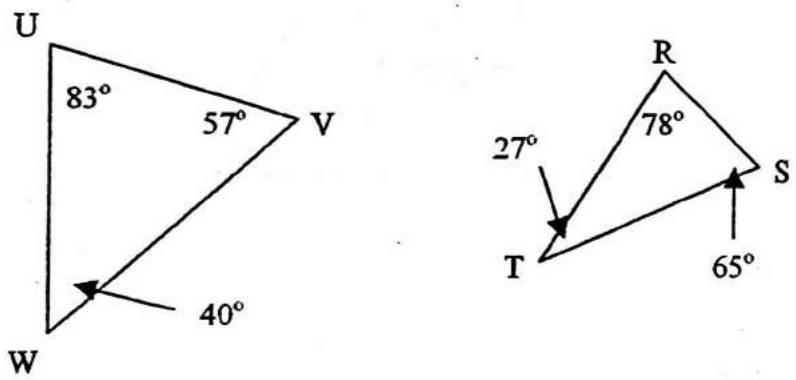
13. What is the scale factor of ΔABC to ΔDEF? _____

Tell if the figures are similar. If they are, write a similarity statement using the symbol for similar, ~, and give the scale factor from the smaller polygon to the larger one. If they are not similar, explain why.

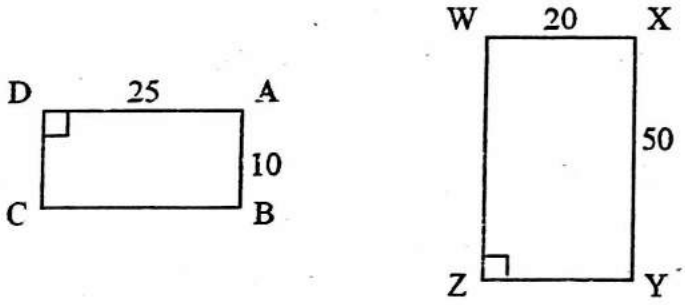
14.



15.



16.



17. Suppose $\Delta CAN \sim \Delta JOY$. If $m\angle A = 96°$, $m\angle N = 46°$ and $m\angle C = 38°$, then

$m\angle Y =$ _____, $m\angle J =$ _____ and $m\angle O =$ _____.

Kuta Software - Infinite Pre-Algebra

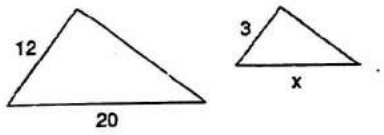
Name_____

Similar Figures

Date_____ Period____

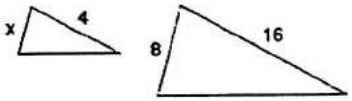
Each pair of figures is similar. Find the missing side.

1)

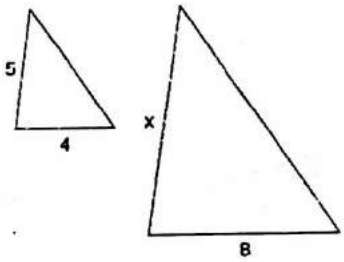


2)

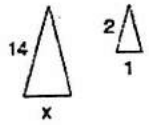
3)



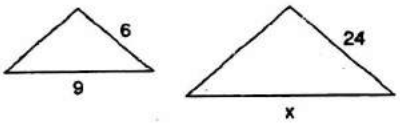
4)



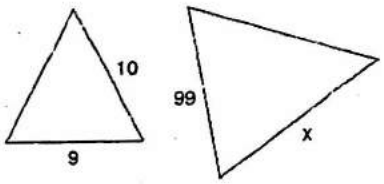
5)



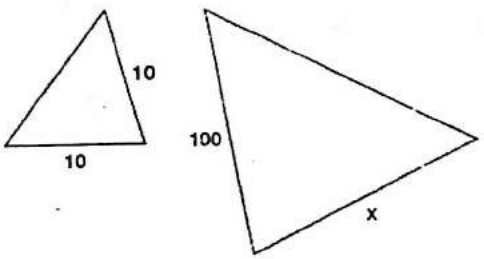
6)



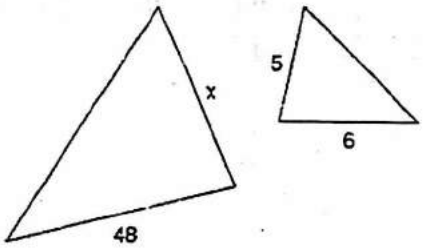
7)



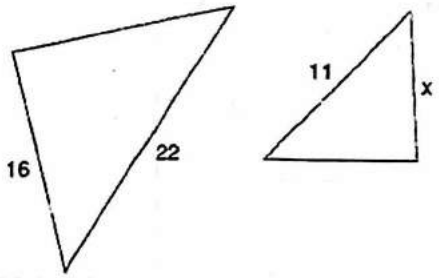
8)



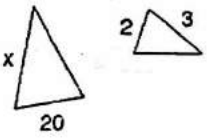
9)



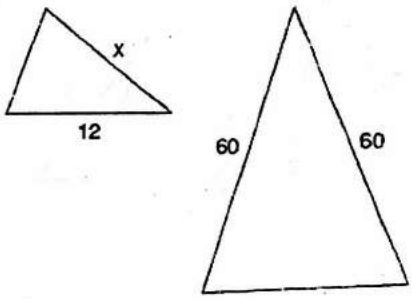
10)



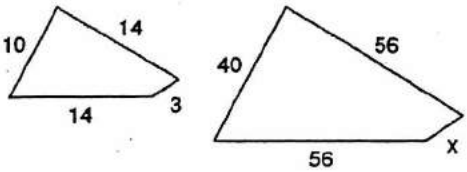
11)



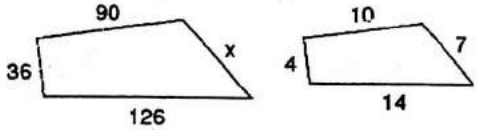
12)



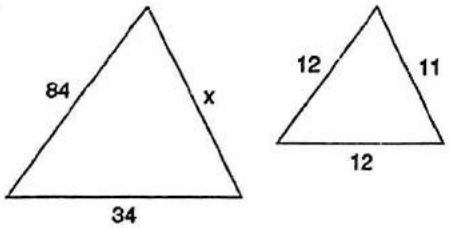
13)



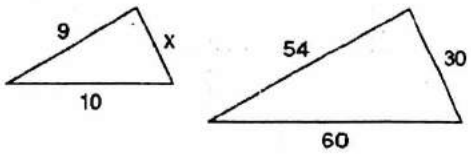
14)



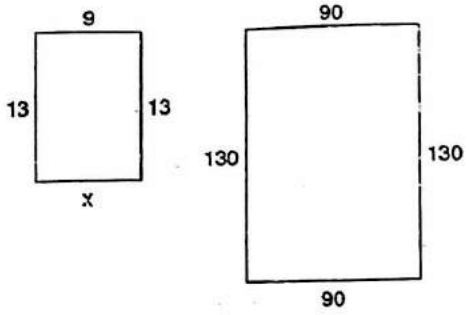
15)



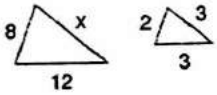
16)



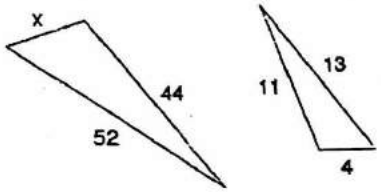
17)



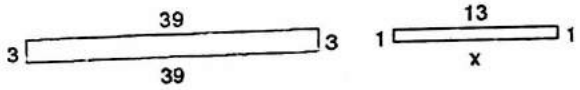
18)



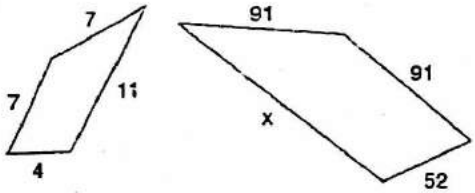
19)



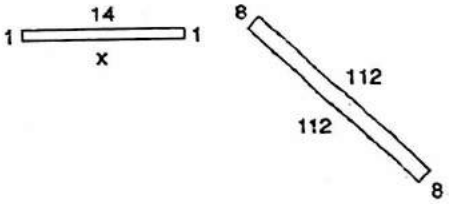
20)



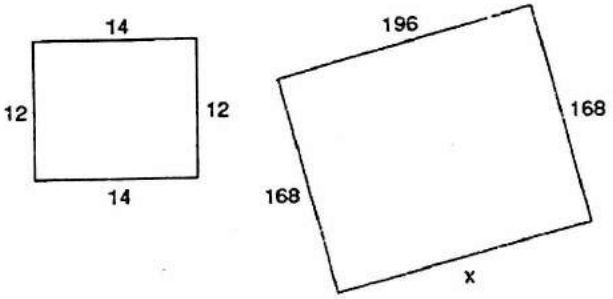
21)



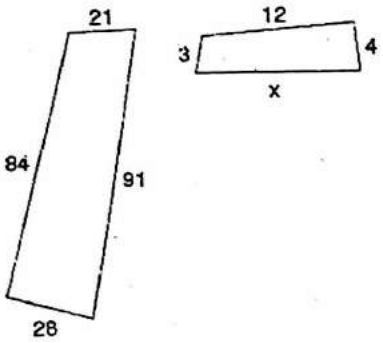
22)



23)



24)

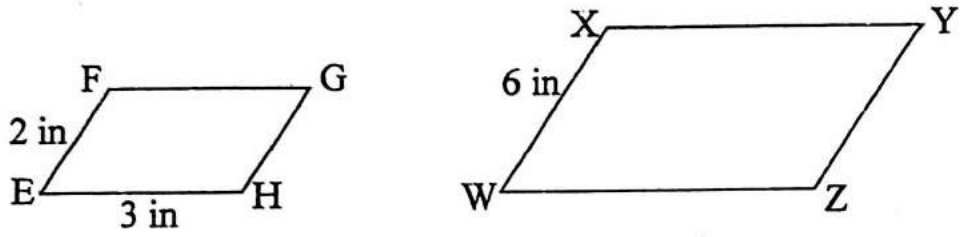


Foundations of Math 2
Unit 3 Practice Sheet Quiz #1

Name _____

Show proportions for all problems.

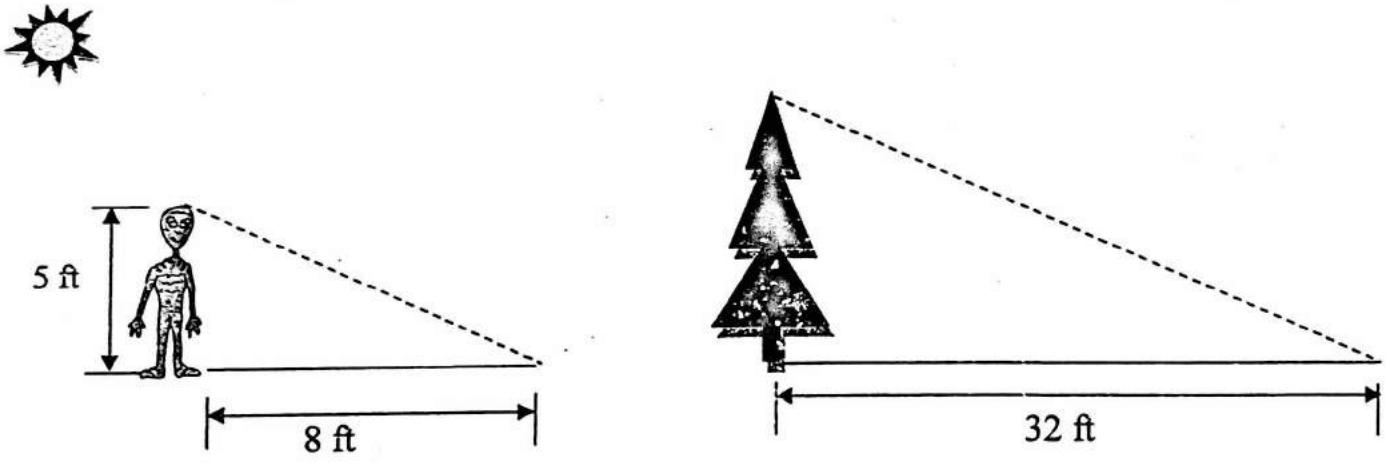
1. Parallelogram EFGH is similar to parallelogram WXYZ.



What is the length of $\overline{WZ}$?

a) 3 in b) 6 in c) 7 in d) 9 in

2. Lance the alien is 5 feet tall. His shadow is 8 feet long.



At the same time of day, a tree's shadow is 32 feet long. What is the height of the tree?

a) 20 feet b) 24 feet c) 29 feet d) 51 feet

3. Mr. Smith is having some photos enlarged for his studio. He wants to enlarge a photo that is 5 inches by 7 inches so the dimensions are 3 times larger than the original. How many times larger than the original photo will the area of the new photo be?

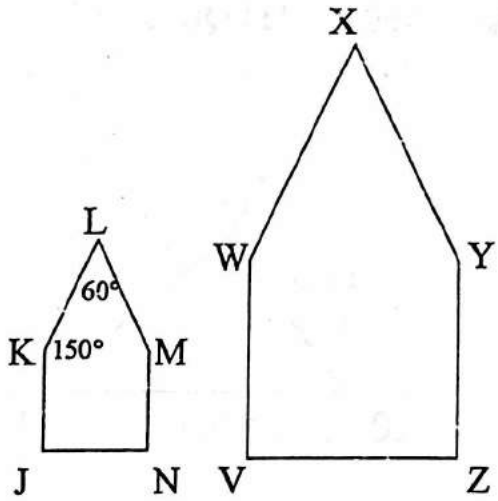
a) 3 b) 6 c) 9 d) 30

21

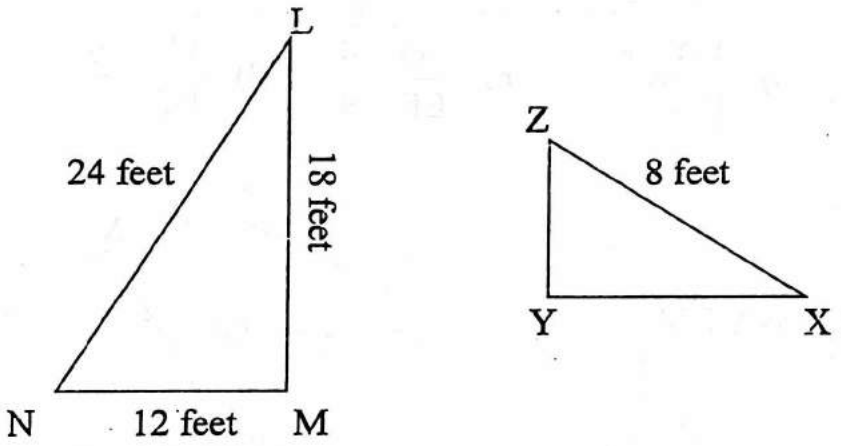
4. Pentagon JKLMN is similar to pentagon VWXYZ.

What is the measurement of angle X?

a) 30° b) 60° c) 150° d) 120°



5. Triangle LMN is similar to triangle XYZ.

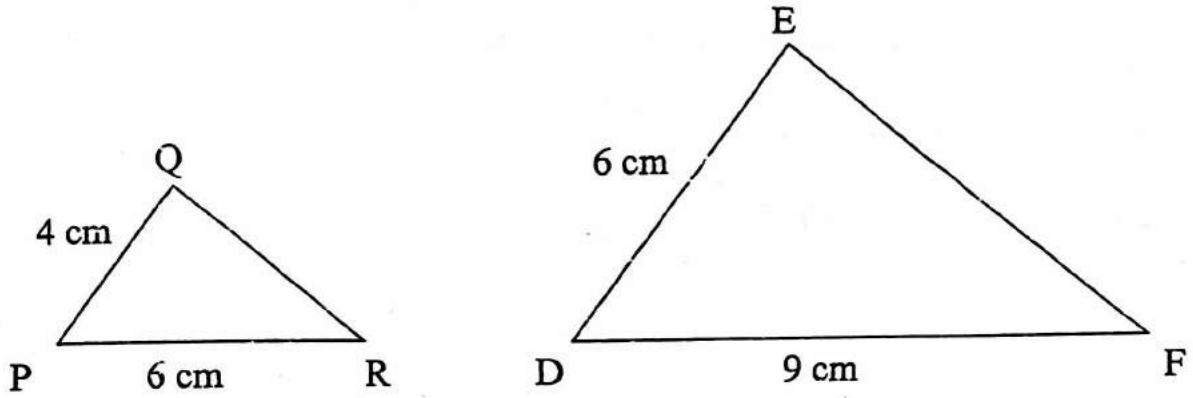


What is the length of $\overline{YX}$?

a) 2 feet b) 3 feet c) 4 feet d) 6 feet

6. A six-foot-tall person is standing next to a flagpole. The person is casting a shadow $1\frac{1}{2}$ feet in length, while the flagpole is casting a shadow 5 feet in length. How tall is the flagpole? a) 30 ft b) 25 ft c) 20 ft d) 15 ft

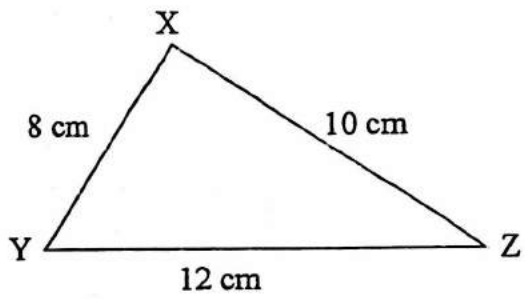
7. Triangle PQR is similar to triangle DEF as shown.



Which describes the relationship between the corresponding sides of the two triangles?

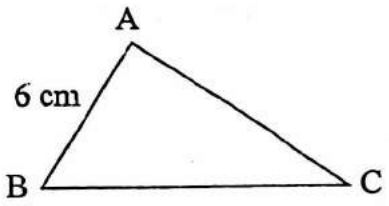
a) $\frac{PQ}{DE}=\frac{4}{6}$ b) $\frac{PQ}{DE}=\frac{6}{4}$ c) $\frac{PQ}{EF}=\frac{4}{9}$ d) $\frac{PR}{DE}=\frac{6}{6}$

8. ΔABC is similar to ΔXYZ.



What is the length of segment $\overline{BC}$?

a) 5 cm b) 7.5 cm c) 8 cm d) 9 cm e) 10 cm



9. Ryan and Kathy each drew a triangle with an angle of 20 degrees. Under which condition would the triangles be similar?

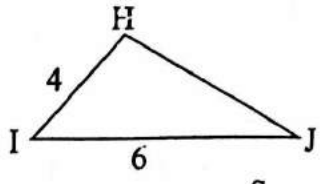
a) if both are right triangles

b) if both are obtuse triangles

c) if the triangles have the same area

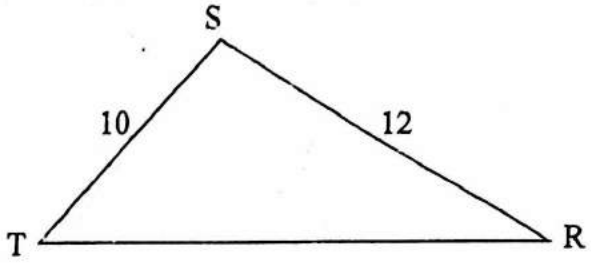
d) if the triangles have the same perimeter

10. ΔHIJ is similar to ΔSTR.



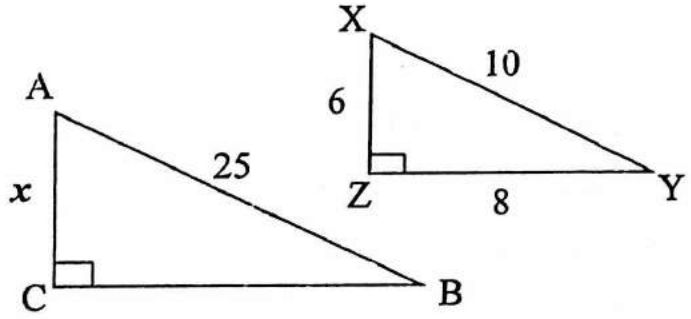
What is the perimeter of ΔSTR?

a) 32 b) 37 c) 40 d) 42 e) 120

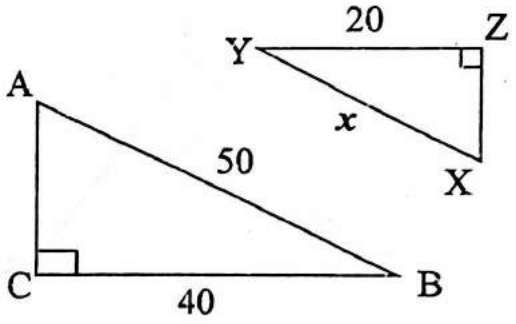


Find the missing side lengths, x and y, in each pair of similar figures.

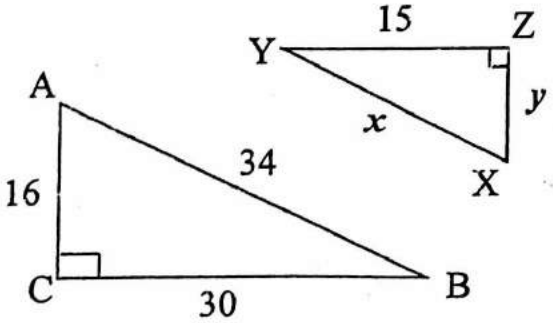
11. ΔABC ~ ΔXYZ



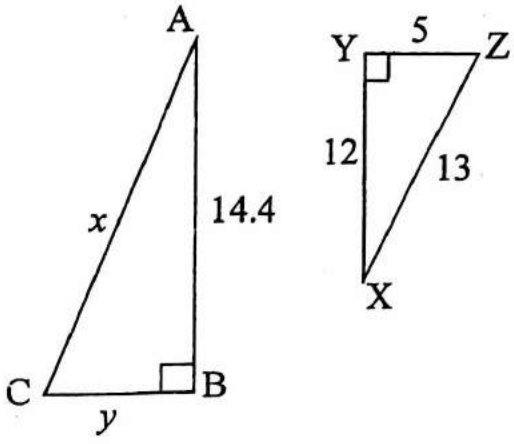
12. ΔABC ~ ΔXYZ



13. ΔABC ~ ΔXYZ



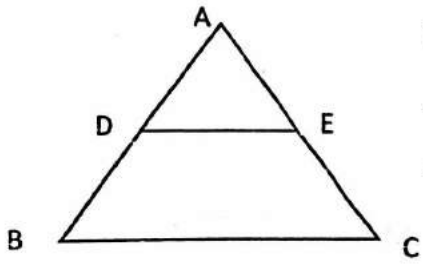
14. ΔABC ~ ΔXYZ



Day 4 Notes

Midsegments of a Triangle

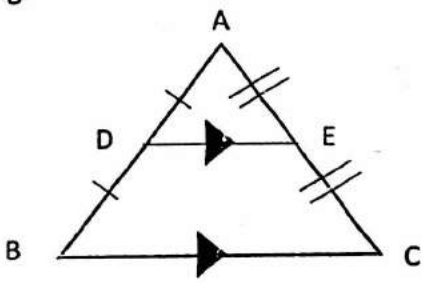
A midsegment of a triangle is a segment that connects the _____ of two sides of a triangle.



In the figure, _____ is the midpoint of _____ and _____ is the midpoint of _____. Thus, _____ is a midsegment.

The Triangle Midsegment Theorem

A midsegment connecting two sides of a triangle is _____ to the third side and is _____ as long.



If _____ = _____ and _____ = _____,

Then _____ || _____ and

_____ = _____.

ACTIVITY 1

EXPLORING MIDSEGMENTS OF A TRIANGLE

1. Using a straightedge, draw a triangle in the space above. Label it $\triangle ABC$.

2. Trace $\triangle ABC$ onto a sheet of patty paper, using a straightedge. Label the vertices appropriately.

3. Patty paper pinch the midpoint of side $\overline{AB}$, labeling it point M and patty paper pinch the midpoint of side $\overline{BC}$, labeling it point N.

4. Using a straightedge, draw segment $\overline{MN}$. This is a midsegment of $\triangle ABC$.

5. Compare $\angle BMN$ on the patty paper to $\angle A$ above. Compare $\angle BNM$ on the patty paper to $\angle C$ above. What is the relationship of each pair of angles? What does this relationship tell you about segments $\overline{MN}$ and $\overline{AC}$? Explain.

6. Using the segment $\overline{MN}$ on your patty paper and segment $\overline{AC}$ above, determine how many segments of length equal to $\overline{MN}$ it takes to equal the length of $\overline{AC}$. Record your answer below.

7. Summarize your findings in a complete sentence.

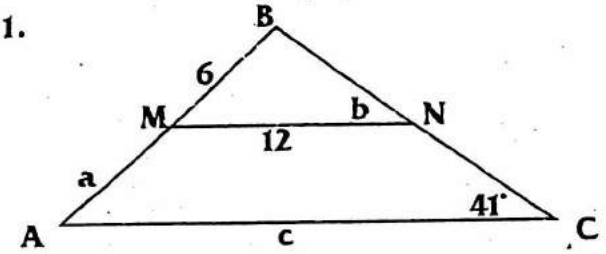
ACTIVITY 2

ARITHMETIC, ALGEBRA, AND MIDSEGMENTS OF A TRIANGLE

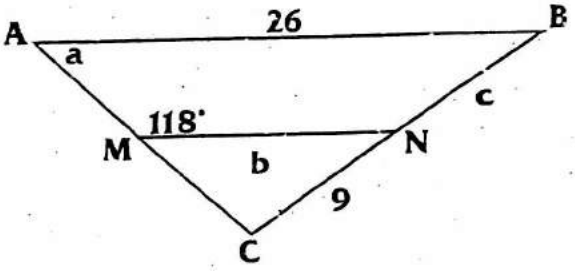
Structure: Boss/Secretary

Find the value of each variable below. In each problem $\overline{MN}$ is a midsegment of the triangle. The diagrams are not drawn to scale.

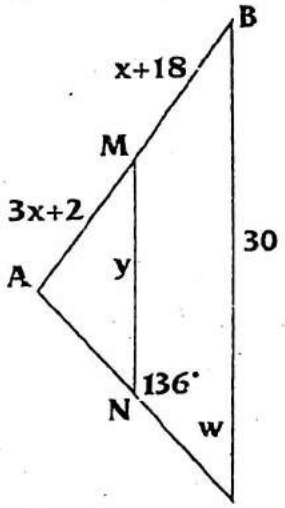
1.



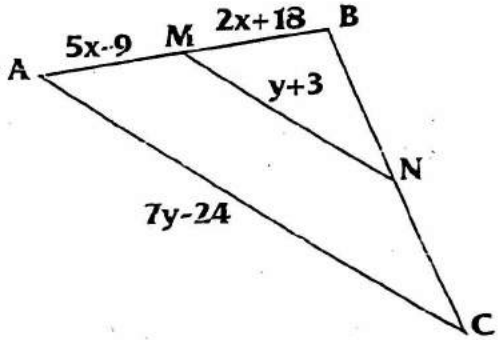
2.



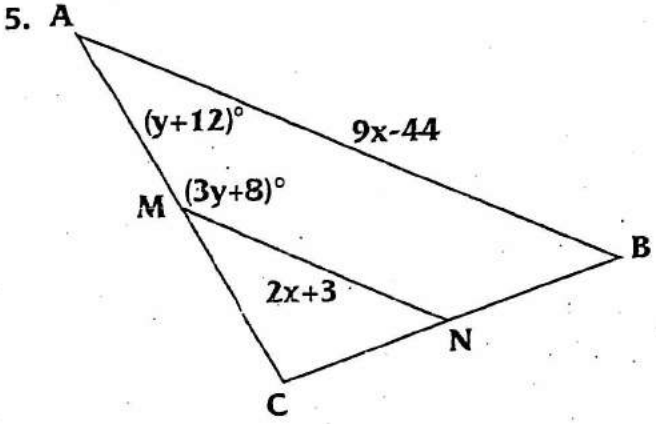
3.



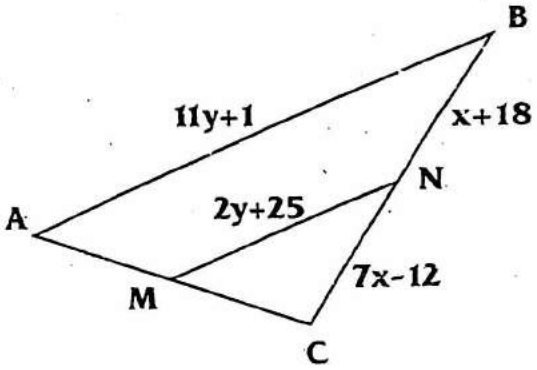
4.



5.

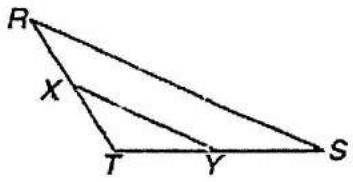


6.



3.4 Midsegments – Show What You Know!

1) XY is the midsegment of ΔRST. Find each requested measure based on the given information.



a) XY = 16, RS = ?

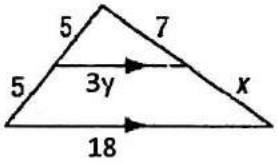
b) RS = 22, XY = ?

c) XY = 5x, RS = 15, x = ?

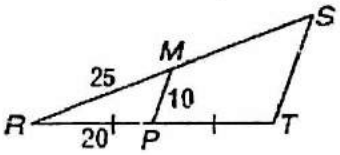
d) m∠R = 23°, m∠TXY = ?

e) m∠XYS = 137°, m∠YSR

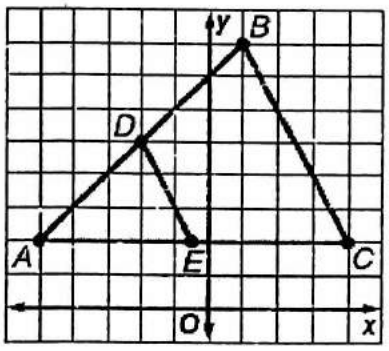
2) Find x and y.



3) Find MS, PT, and ST.



4) Triangle ABC has vertices $A(-5, 2)$, $B(1, 8)$, and $C(4, 2)$. Point D is the midpoint of $\overline{AB}$ and E is the midpoint of $\overline{AC}$.



a) Identify the coordinates of D and E.

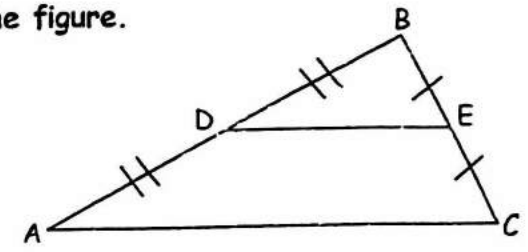
b) Show that $\overline{BC}$ is parallel to $\overline{DE}$.

c) Show that $DE = \frac{1}{2}BC$.

Foundations of Math 2 Name _____

Unit 3 Midsegment Worksheet #1

Use the Triangle Midsegment Theorem to name parts of the figure.



1. a midsegment of triangle ABC _____

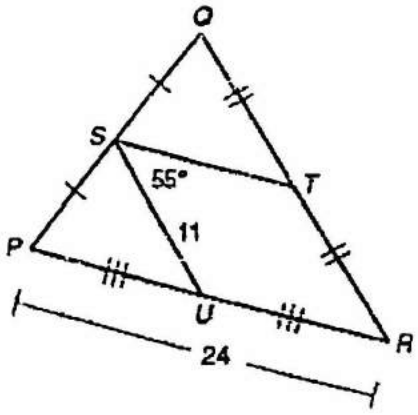
2. a segment parallel to AC _____

3. a segment with the same length as BD _____

4. a segment that is half the length of AC _____

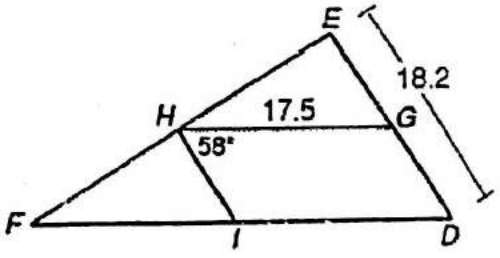
5. a segment twice the length of EC _____

Use the Triangle Midsegment Theorem to find each measure.



6. ST = _____ 7. QR = _____

8. PU = _____

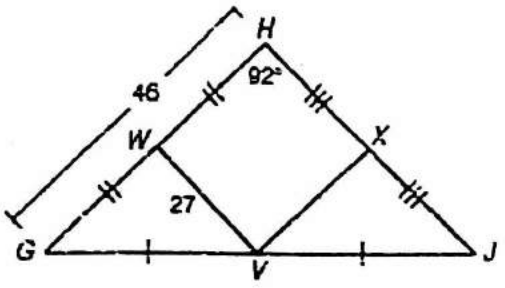


9. HI = _____ 10. DF = _____

11. GE = _____

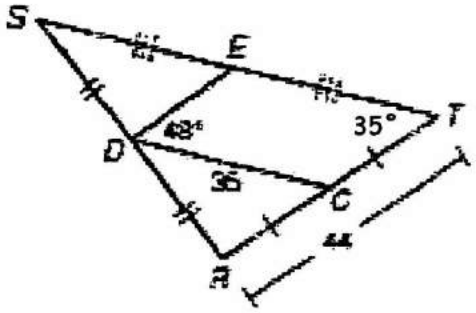
12. VX = _____

13. HJ = _____



14. m∠ VXJ = _____

15. XJ = _____



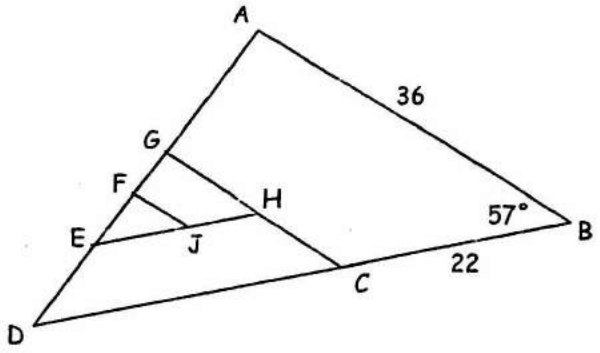
16. ST = _____

17. DE = _____

18. m∠DES = _____

19. m∠ DET = _____

$\overline{CG}$, $\overline{EH}$, and $\overline{FJ}$ are midsegments of ΔABD, ΔGCD, and ΔGHE, respectively. Find each measure.



20. CG = _____

21. EH = _____

22. FJ = _____

23. m∠ DCG = _____

24. m∠ GHE = _____

25. m∠ FJH = _____

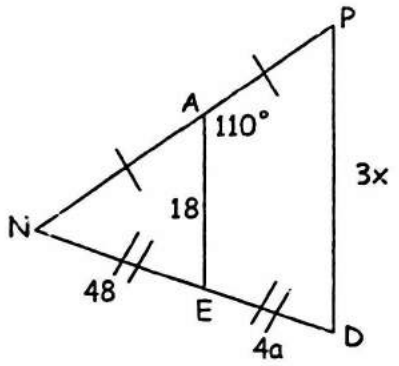
$\overline{AE}$ is a midsegment of ΔPND. Find each measure.

26. $m\angle NAE =$ _____

27. $m\angle P =$ _____

28. $x =$ _____

29. $a =$ _____



$\overline{RT}$ is a midsegment of ΔWHA. Find each measure.

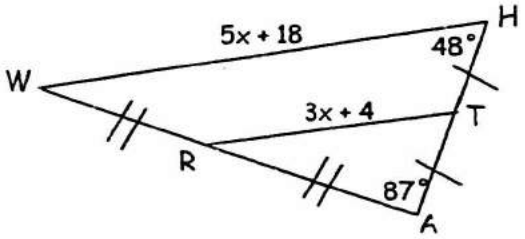
30. $x =$ _____

31. $RT =$ _____

32. $WH =$ _____

33. $m\angle ATR =$ _____

34. $m\angle W =$ _____

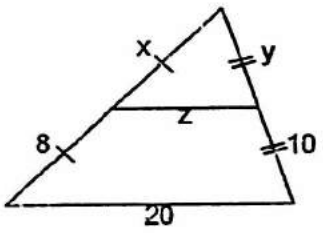


Foundations of Math 2
Unit 3 Midsegments Worksheet #2

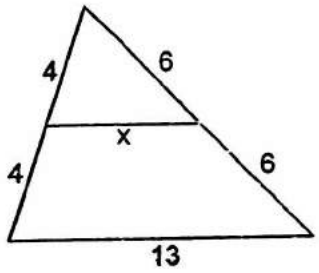
Name _____

Directions: Find the values of the variables. You must show all work to receive full credit. Figures are not drawn to scale.

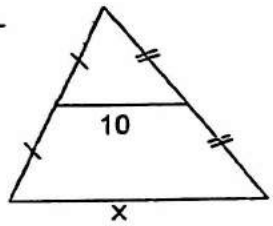
1. x = ____ y = ____ z = ____



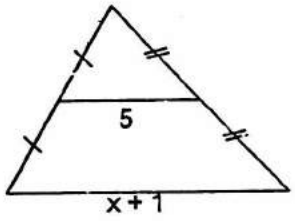
2. x = ____



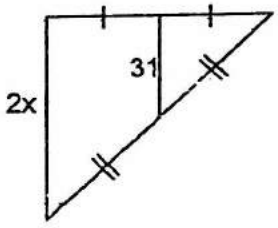
3. x = ____



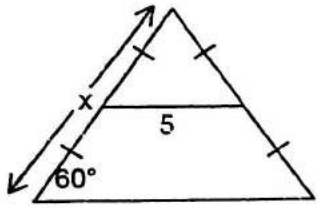
4. x = ____



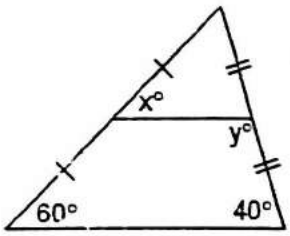
5. x = ____



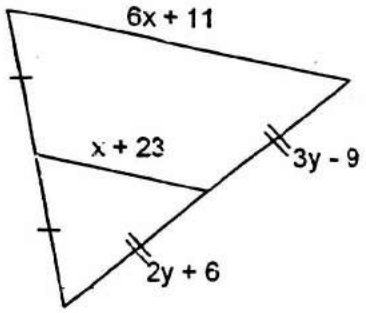
6. x = ____



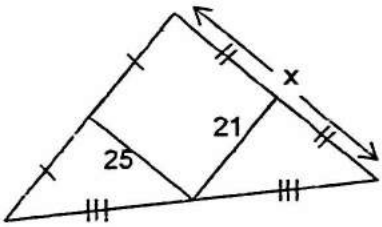
7. x = _____ y = _____



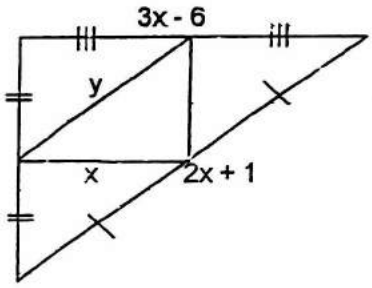
8. x = _____ y = _____



9. x = _____

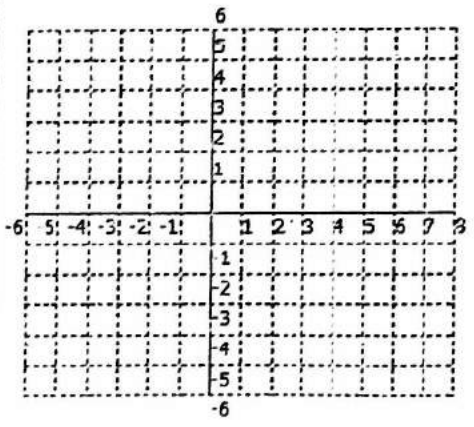


10. x = _____ y = _____



V. Coordinate Geometry.

15. Graph $\triangle ABC$, given $A(-5,-5)$, $B(-3,5)$, and $C(7,-1)$.



16. Find and graph point D, the midpoint of $\overline{AB}$. Find and graph point E, the midpoint of $\overline{BC}$. Then draw in $\overline{DE}$.

$D($_____, _____$)$ and $E($_____, _____$)$

17. $\overline{DE}$ is also known as a _____ of $\triangle ABC$.

18. What properties are true of a triangle's midsegment?

Kuta Software - Infinite Geometry

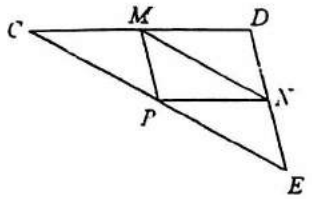
Name_____

Midsegment of a Triangle

Date_____ Period____

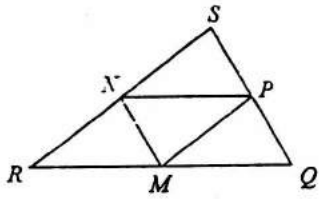
In each triangle, M, N, and P are the midpoints of the sides. Name a segment parallel to the one given.

1)



$\overline{CD} \parallel$ ___

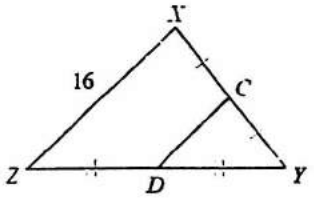
2)



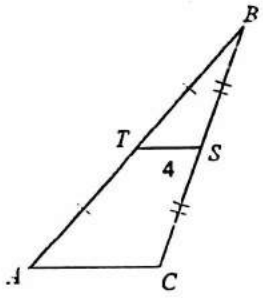
___ $\parallel \overline{QS}$

Find the missing length indicated.

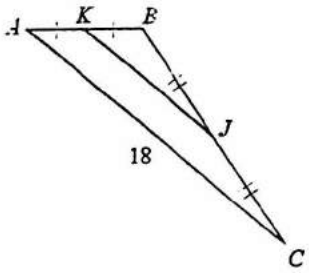
3) Find *CD*



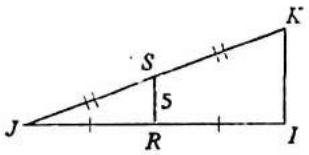
4) Find *AC*



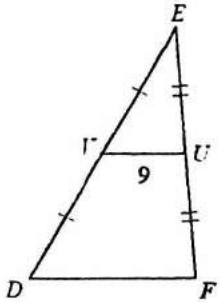
5) Find *KJ*



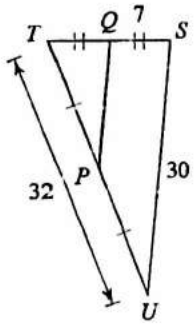
6) Find *IK*



7) Find *DF*

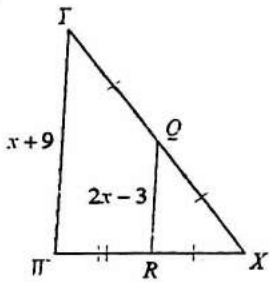


8) Find *PQ*

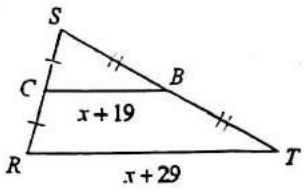


Solve for x.

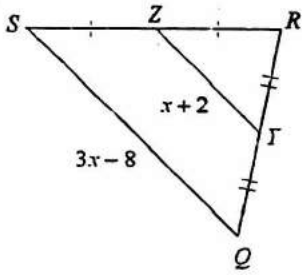
9)



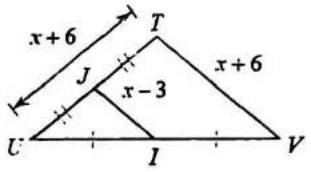
10)



11)

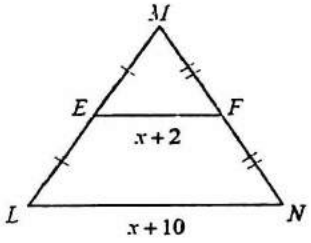


12)

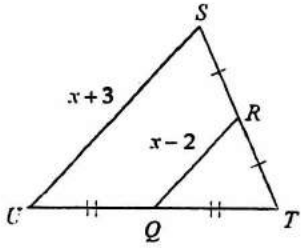


Find the missing length indicated.

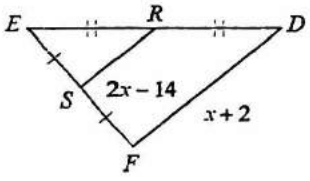
13) Find LN



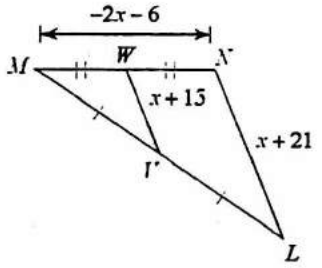
14) Find RQ



15) Find SR

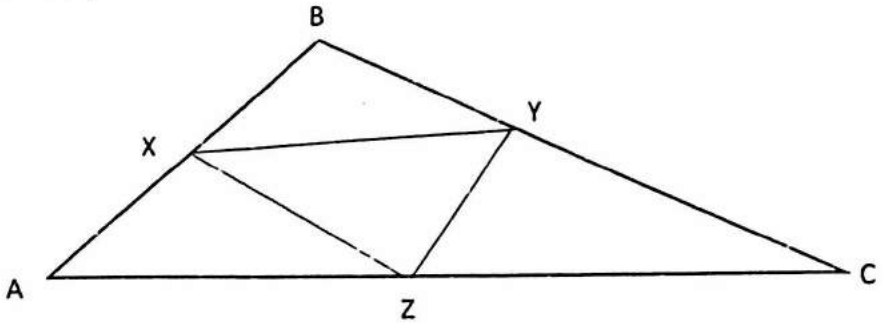


16) Find VW



36

Day 6 Warm Up



In the diagram, X is the midpoint of $\overline{AB}$, Y is the midpoint of $\overline{BC}$, and Z is the midpoint of $\overline{AC}$.

1. If AB = 40, then ZY = _____

2. If XZ = 25, then BC = _____

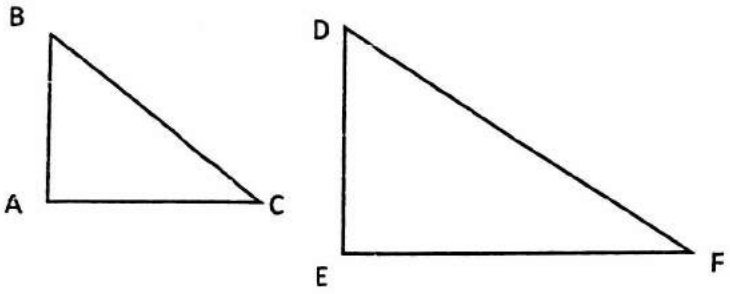
3. If AZ = 30, then ZC = _____

4. If AC = 2x, then XY = _____

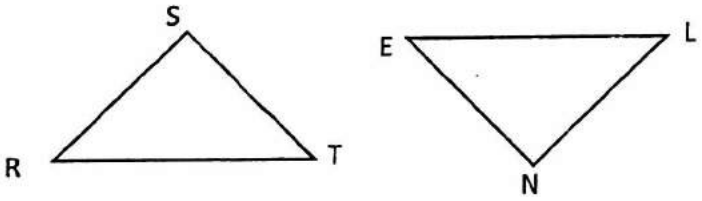
Day 6 Notes

If 2 triangles are congruent, then we know 6 facts.

$\triangle ABC \cong \triangle DEF$



$\triangle RST \cong \triangle LNE$



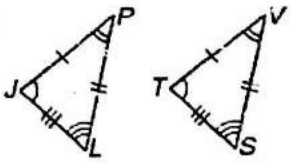
1. $\overline{RT} \cong$ _____
2. $\overline{LE} \cong$ _____
3. <N $\cong$ _____
4. <S $\cong$ _____
5. $\overline{ST} \cong$ _____
6. <R $\cong$ _____

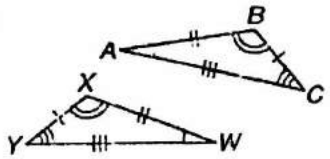
NAME _____ DATE _____ PERIOD ____

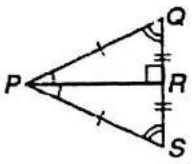
4-3 Skills Practice

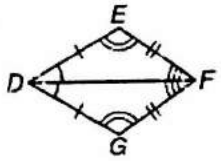
Congruent Triangles

Identify the congruent triangles in each figure.

1. 

2. 

3. 

4. 

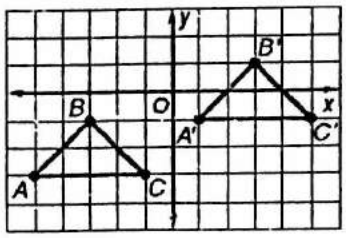
Name the congruent angles and sides for each pair of congruent triangles.

5. $\triangle ABC \cong \triangle FGH$

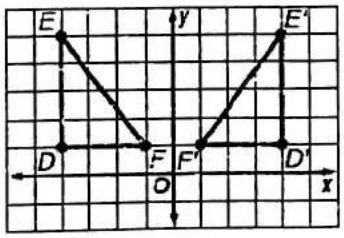
6. $\triangle PQR \cong \triangle STU$

Verify that each of the following transformations preserves congruence, and name the congruence transformation.

7. $\triangle ABC \cong \triangle A'B'C'$



8. $\triangle DEF \cong \triangle D'E'F'$



Kuta Software - Infinite Geometry

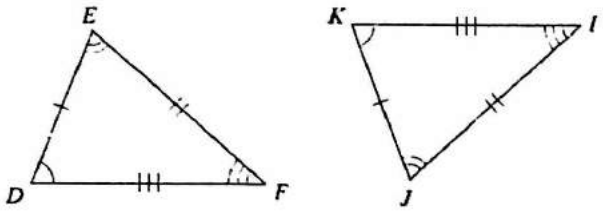
Name_____

Congruence and Triangles

Date_____ Period____

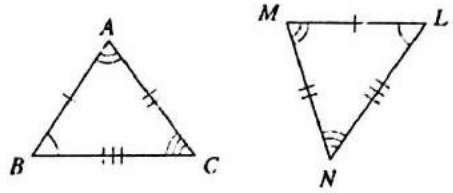
Complete each congruence statement by naming the corresponding angle or side.

1) $\Delta DEF \cong \Delta KJI$



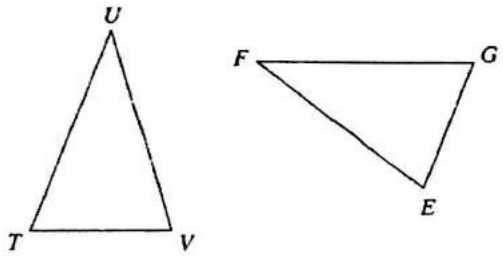
$\overline{FD} \cong$?

2) $\Delta BAC \cong \Delta LMN$



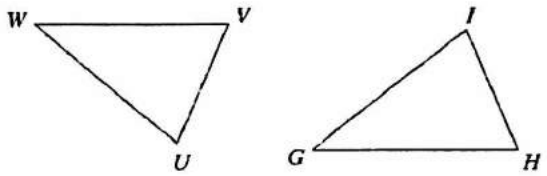
$\angle A \cong$?

3) $\Delta TUV \cong \Delta GFE$



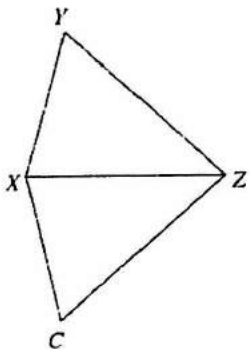
$\angle U \cong$?

4) $\Delta WVU \cong \Delta GHI$



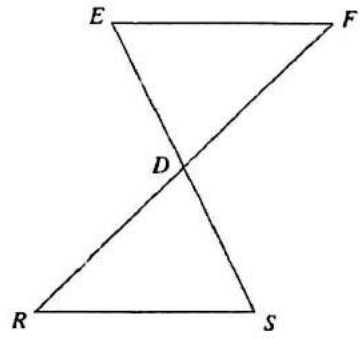
$\angle W \cong$?

5) $\Delta ZXY \cong \Delta ZXC$



$\angle Y \cong$?

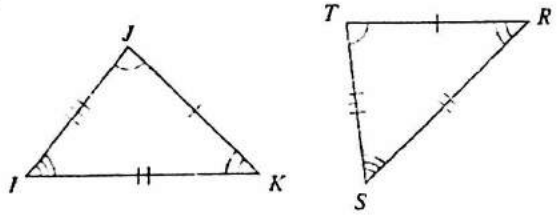
6) $\Delta DEF \cong \Delta DSR$



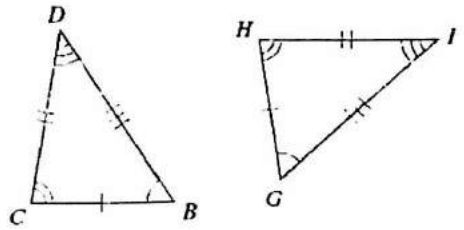
$\angle F \cong$?

Write a statement that indicates that the triangles in each pair are congruent.

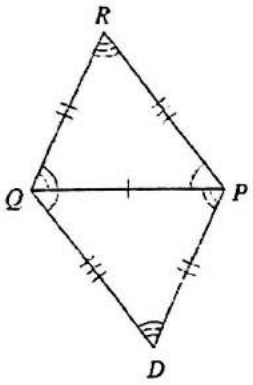
7)



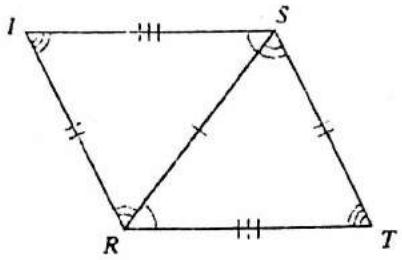
8)



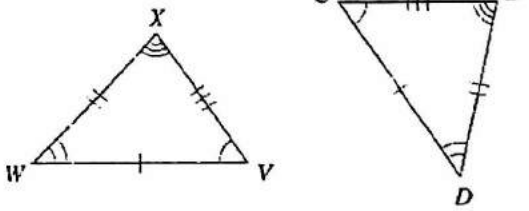
9)



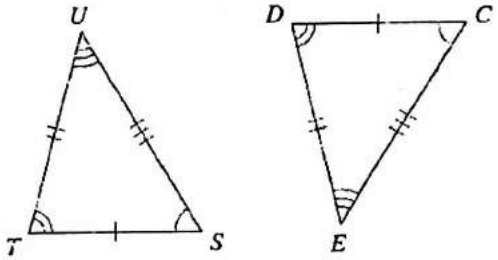
10)



11)

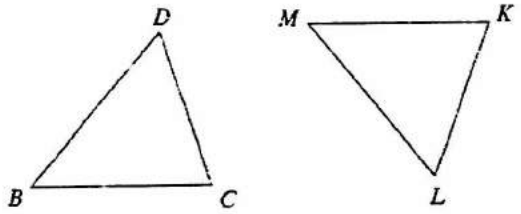


12)

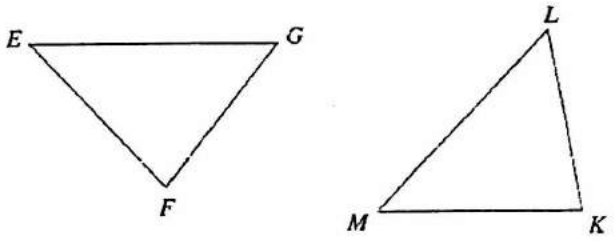


Mark the angles and sides of each pair of triangles to indicate that they are congruent.

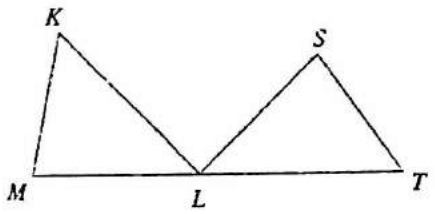
13) $\Delta BDC \cong \Delta MLK$



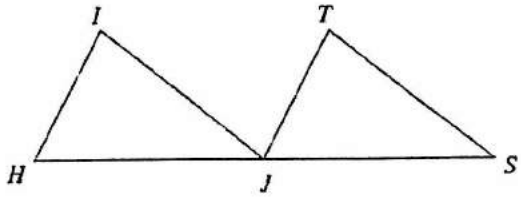
14) $\Delta GFE \cong \Delta LKM$



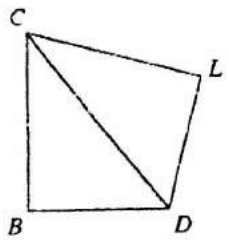
15) $\Delta MKL \cong \Delta STL$



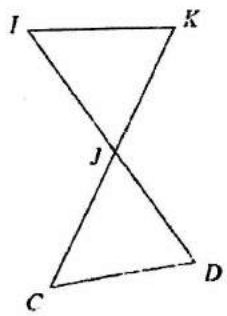
16) $\Delta HIJ \cong \Delta JTS$



17) $\Delta CDB \cong \Delta CDL$



18) $\Delta JIK \cong \Delta JCD$



Day 7 Warm Up

Name the congruent angles and sides for each pair of congruent triangles.

1. $\triangle SBM \cong \triangle TCN$

2. $\triangle CAT \cong \triangle DOG$

Day 7 Notes

SSS (Side-Side-Side) Postulate

If the _____ _____ of a triangle are _____ to the _____ _____ of another triangle, then the _____.

SAS (Side-Angle-Side) Postulate

If _____ _____ and the _____ _____ of a triangle are _____ to _____ _____ and the included angle of another triangle, then the _____.

ASA (Angle-Side-Angle) Postulate

If _____ _____ and the _____ _____ of a triangle are _____ to _____ _____ and the included side of another triangle, then the _____.

AAS (Angle-Angle-Side) Postulate

If _____ _____ and the _____ _____ of a triangle are _____ to _____ _____ and the corresponding non-included side of another triangle, then the _____.

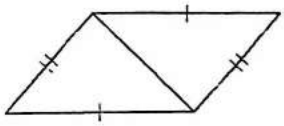
Geometry Name_____

Assignment

Date_____ Period____

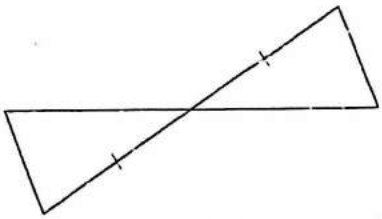
State if the two triangles are congruent. If they are, state how you know.

1)



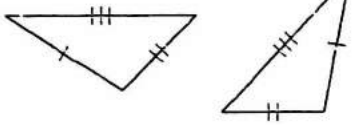
A) SSS B) SAS
C) AAS D) Not congruent

2)



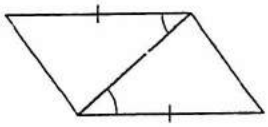
A) AAS B) SAS
C) SSS D) Not congruent

3)



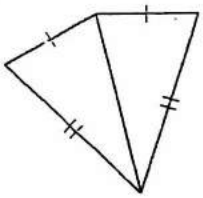
A) ASA B) AAS
C) SSS D) SAS

4)



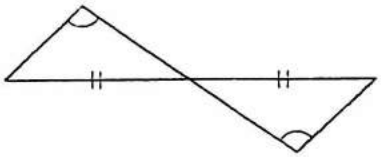
A) SAS B) AAS
C) SSS D) ASA

5)



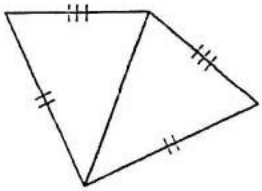
A) AAS B) SAS
C) SSS D) ASA

6)



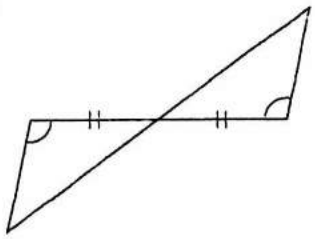
A) Not congruent B) SSS
C) ASA D) AAS

7)



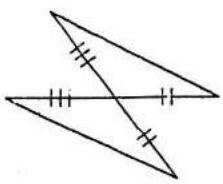
A) SSS B) SAS
C) AAS D) ASA

8)



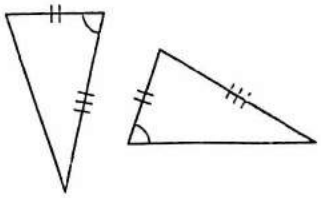
A) Not congruent B) ASA
C) SAS D) SSS

9)



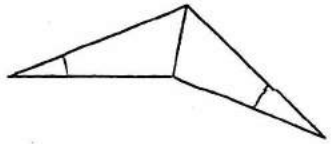
A) ASA B) AAS
C) SAS D) SSS

10)



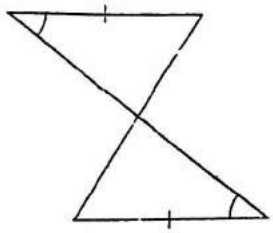
A) SSS B) Not congruent
C) SAS D) ASA

11)



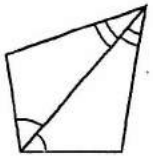
A) AAS B) SAS
C) ASA D) Not congruent

12)



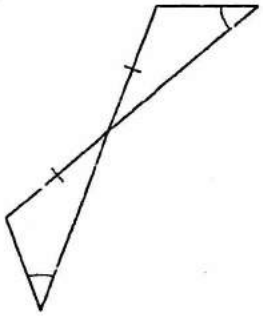
A) SSS B) AAS
C) Not congruent D) ASA

13)



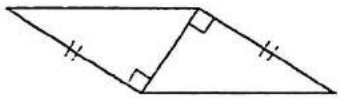
A) AAS B) SAS
C) Not congruent D) ASA

14)



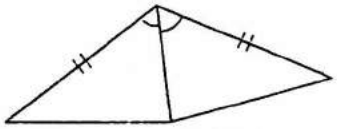
A) SAS B) Not congruent
C) AAS D) SSS

15)



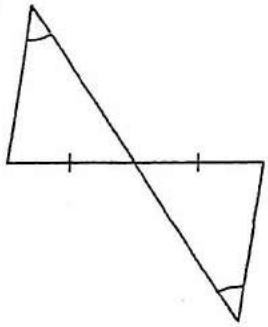
A) SSS B) ASA
C) SAS D) AAS

16)



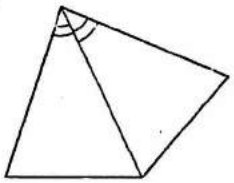
A) SAS B) Not congruent
C) SSS D) ASA

17)



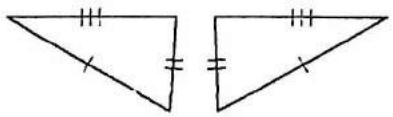
A) ASA B) AAS
C) Not congruent D) SAS

18)



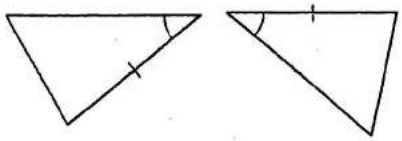
A) AAS B) Not congruent
C) SAS D) SSS

19)



A) SAS B) SSS
C) Not congruent D) AAS

20)



A) ASA B) Not congruent
C) SAS D) AAS

Kuta Software - Infinite Geometry

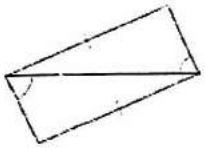
Name_____

SSS, SAS, ASA, and AAS Congruence

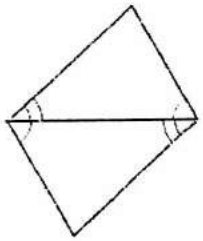
Date_____ Period____

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

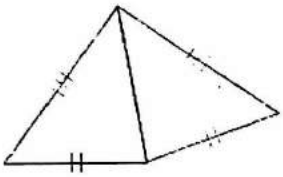
1)



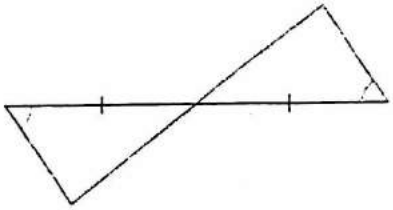
2)



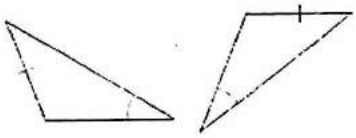
3)



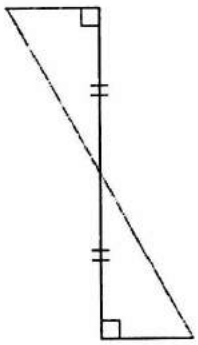
4)



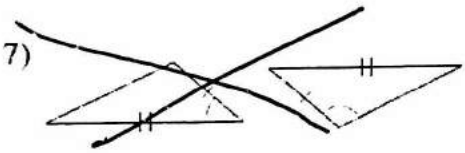
5)



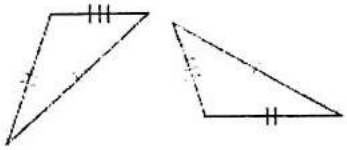
6)



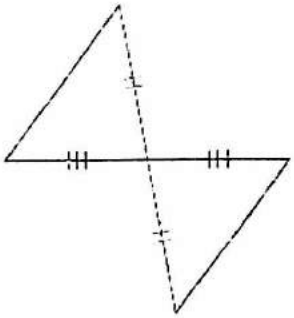
7)



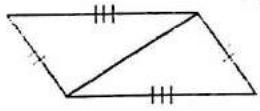
8)



9)

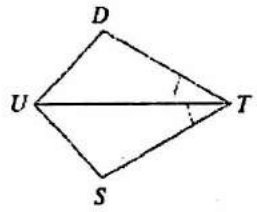


10)

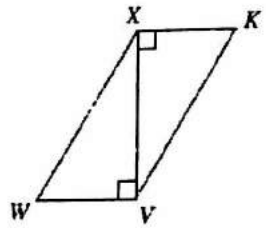


State what additional information is required in order to know that the triangles are congruent for the reason given.

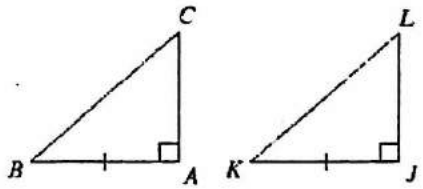
11) ASA



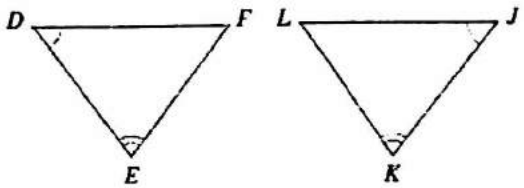
12) SAS



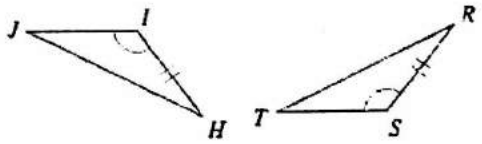
13) SAS



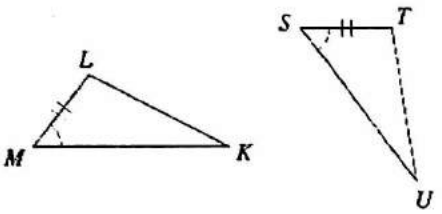
14) ASA



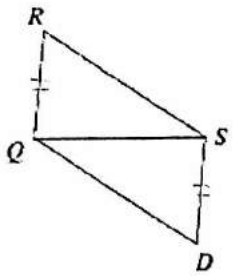
15) SAS



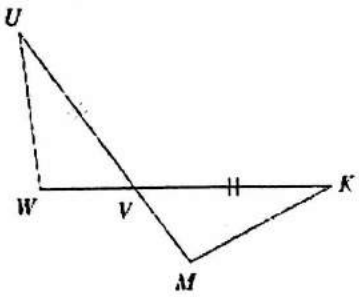
16) ASA



17) SSS

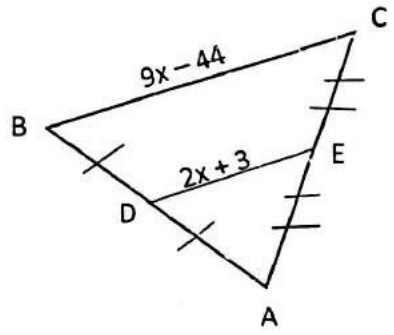


18) SAS

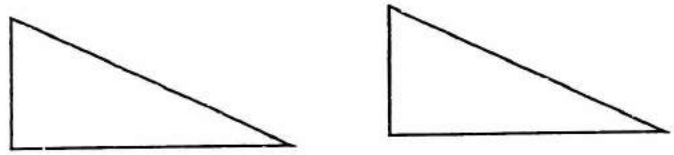


Day 8 Quiz Review

1. Solve for x.



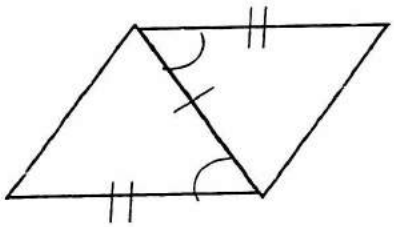
2. Identify the congruent triangles in each figure.



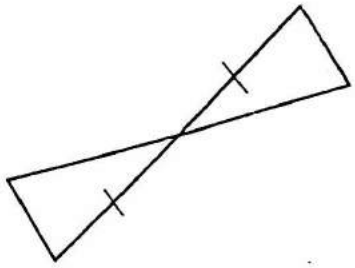
_____ ≅ _____

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

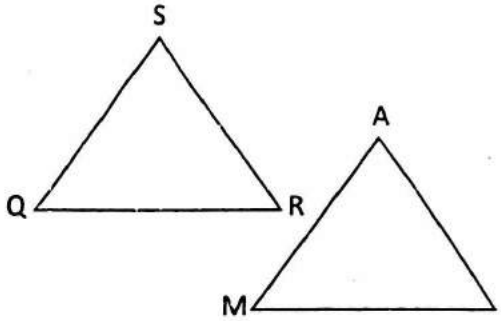
a)



b)



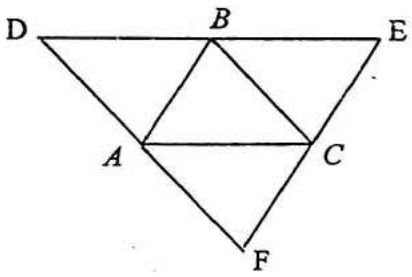
4. Given $\Delta SRQ \cong \Delta ATM$, list all six triangle congruences.



a. _____ b. _____ c. _____

d. _____ e. _____ f. _____

5. DE = 18, DA = 10, and FC = 7. Find *AB*, *BC*, and *AC*.

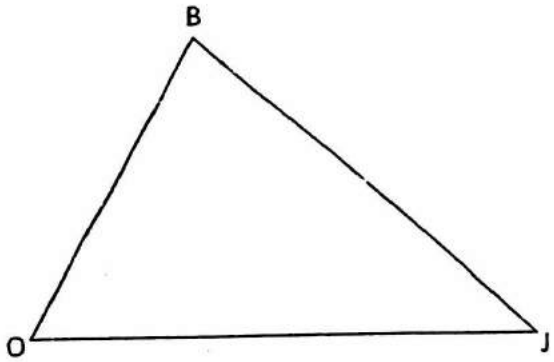


AB = _____ *BC* = _____ *AC*= _____

Foundations of Math 2
Congruent Triangles Practice

Name: _____

1) Given ΔJOB, state each of the following:



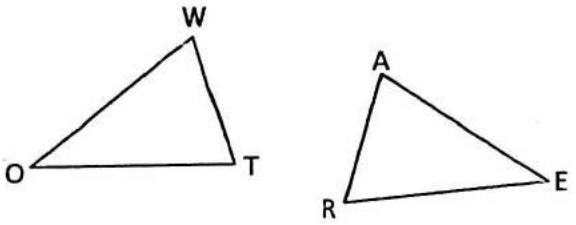
a. The side opposite $\measuredangle B$: _____

b. The angle opposite $\overline{OJ}$: _____

c. The side included between $\measuredangle B$ and $\measuredangle O$: _____

d. The angle included between $\overline{OJ}$ and $\overline{OB}$: _____

2) Given $\Delta TWO \cong \Delta ARE$, state the six congruences.

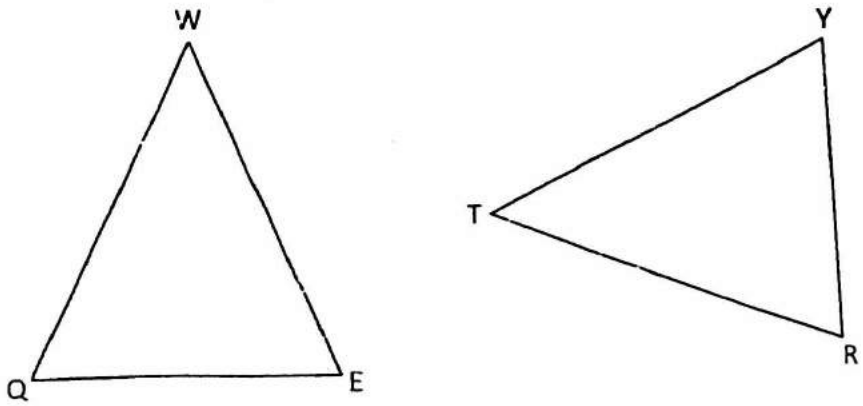


Angles	Sides
_____	_____
_____	_____
_____	_____

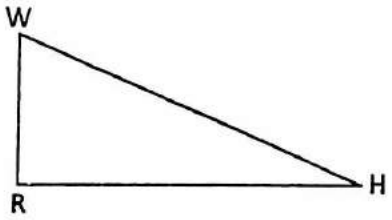
3) Given $\Delta POI \cong \Delta NTS$, state the six congruences.

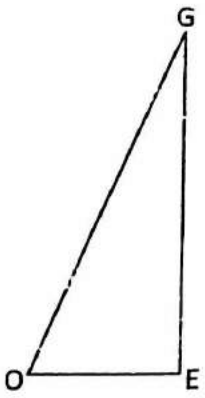
Angles	Sides
_____	_____
_____	_____
_____	_____

4) Mark the angles and sides of the triangles to show that $\Delta QWE \cong \Delta RTY$



5) Complete each of the following statements.





a) $\overline{WR} \cong$ _____

b) $\measuredangle H \cong$ _____

c) $\Delta GEO \cong$ _____

d) $\measuredangle O \cong$ _____

e) $\overline{OG} \cong$ _____

f) $\Delta HRW \cong$ _____

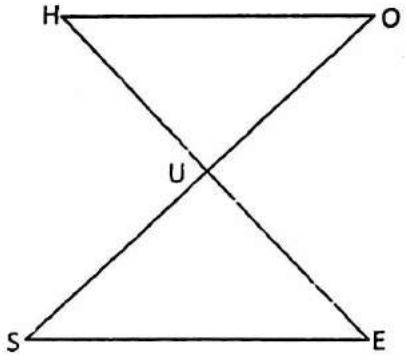
g) $\measuredangle R \cong$ _____

h) $\Delta WHR \cong$ _____

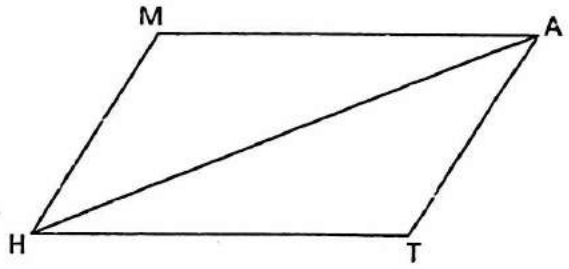
i) $\overline{EG} \cong$ _____

6) Complete each congruence statement.

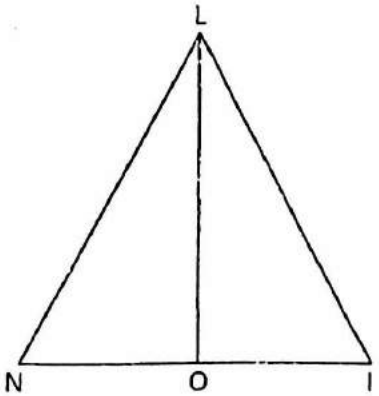
a. $\Delta USE \cong$ _____



b. $\Delta AHM \cong$ _____



c. $\Delta LIO \cong$ _____



Triangle Sum Theorem

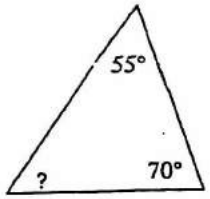
Name_____

Date_____ Period____

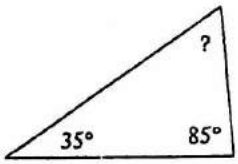
Practice Problems

Find the measure of each angle indicated.

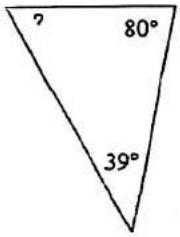
1)



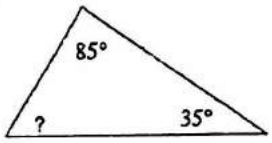
2)



3)

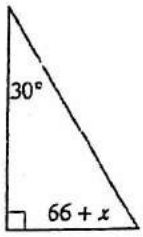


4)

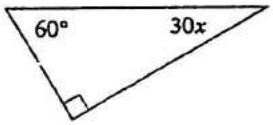


Solve for x.

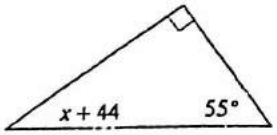
5)



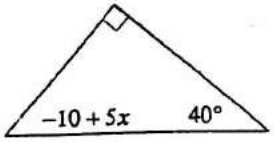
6)



7)



8)



(OMIT 5 and 7)

Similar Figures Worksheet
Show All Work Where Necessary!

Name _____

You can use proportional relationships to find missing side lengths in similar figures

Solve each proportion.

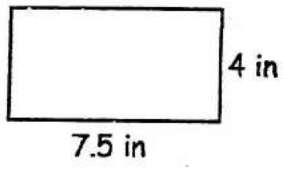
1. $\frac{3}{8} = \frac{x}{24}$

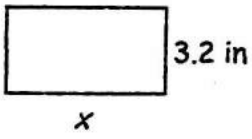
2. $\frac{5}{7} = \frac{25}{y}$

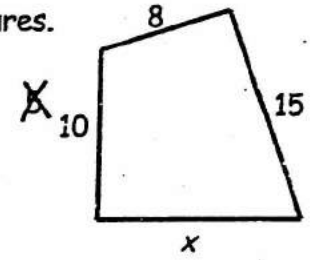
3. $\frac{5}{t} = \frac{t}{45}$

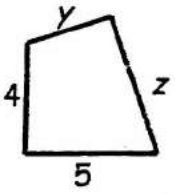
Find the indicated length for each pair of similar figures.

4.

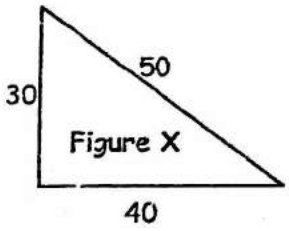




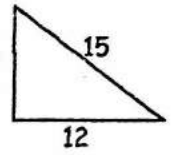




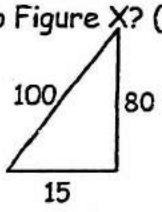
6. Which of the following figures are similar to Figure X? (there may be more than one)



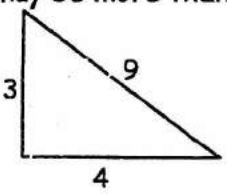
a.



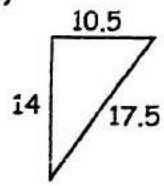
b.



c.

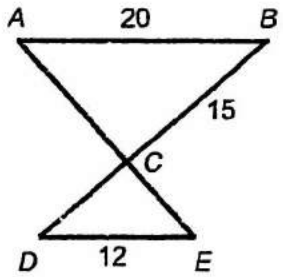


d.



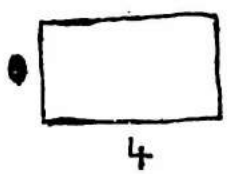
X In the diagram below, $\overline{AB}$ is parallel to $\overline{DE}$. $AB = 20$ inches, $DE = 12$ inches, and $BC = 15$ inches. What is the length of $\overline{DC}$?

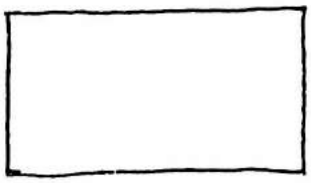
A. 25 in.
B. 9 in.
C. 7 in.
D. 90 in.



8. A rectangle has a length of 4 feet and a perimeter of 14 feet. What is the perimeter of a similar rectangle with a width of 9 feet?

A. 36 ft
B. 108 ft
C. 42 ft
D. 126 ft





Congruent Figures- Polygons that have BOTH the same_____ and the same _____.

Similar Figures –Polygons that have the same_____, but different _____.

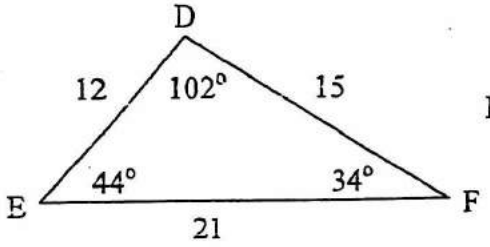
~~Corresponding Parts – Having the same _____~~.

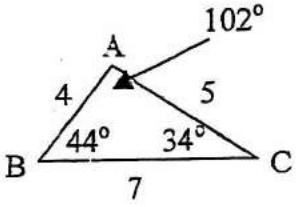
Two polygons are similar if:

1. _____ are congruent AND
2. the lengths of _____ are proportional/scale factor.

~~recall: The _____ of proportions are _____~~

~~The simplified proportional relationship is called the _____~~





1. Which angle corresponds to $\angle A$?_____
2. Which angle corresponds to $\angle B$?_____
3. Which angle corresponds to $\angle C$?_____
4. Does each angle and its corresponding angle have the same measurement?
5. Which side corresponds to $\overline{AB}$? _____
6. Which side corresponds to $\overline{CB}$? _____
7. Which side corresponds to $\overline{AC}$? _____
8. What is the ratio of side $\overline{AB}$ length to the length of it corresponding side?_____
9. What is the ratio of side $\overline{BC}$ length to the length of it corresponding side?_____
10. What is the ratio of side $\overline{AC}$ length to the length of it corresponding side?_____
11. What are the ratios equal to in lowest terms? _____
12. Are all three ratios equal?
13. What is the scale factor of ΔABC to ΔDEF? _____
14. What is the scale factor of ΔDEF to ΔABC? _____

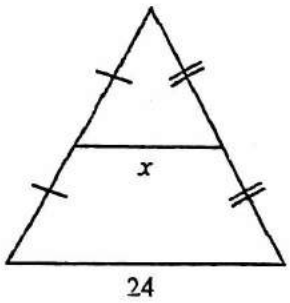
Tutor-USA.com Worksheet
Geometry
Triangle Midsegment Theorem

Name: _____
Date: _____

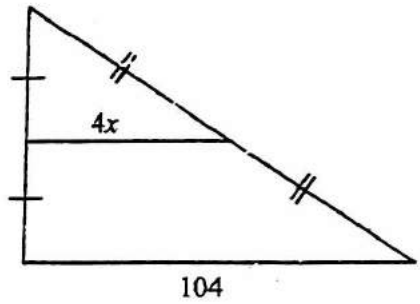
1) The Triangle Midsegment Theorem states that in any triangle, a segment joining the midpoints of any two sides will be _____ to the third side and _____ its length.

Use the Triangle Midsegment Theorem to find the value of x.

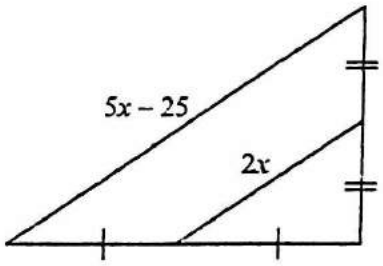
2)



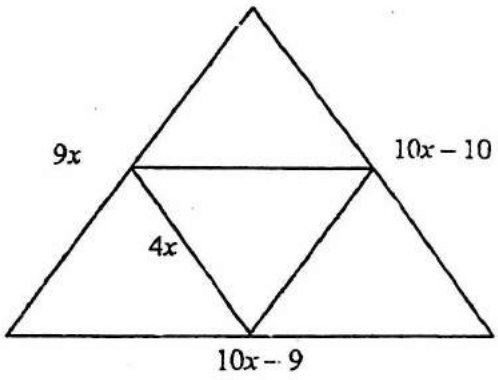
3)



4)



5)

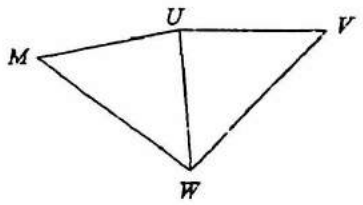


5/10

Congruence Statements and Carresponding Sides and angles

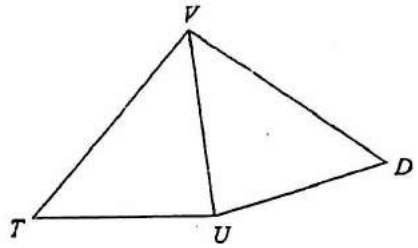
Complete each congruence statement by naming the corresponding angle or side.

1) $\Delta WUV \cong \Delta WUM$



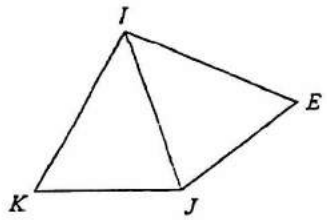
$\angle VWU \cong ?$

2) $\Delta VUT \cong \Delta VUD$



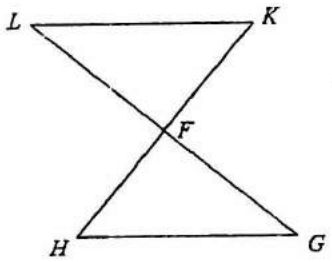
$\overline{TV} \cong ?$

3) $\Delta IJK \cong \Delta IJE$



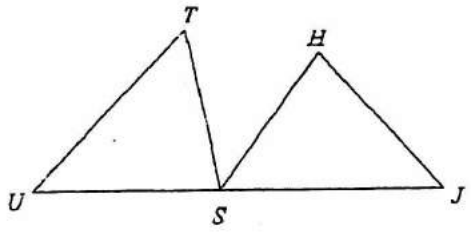
$\angle IJK \cong ?$

4) $\Delta FGH \cong \Delta FLK$



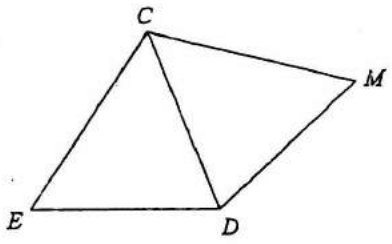
$\overline{GH} \cong ?$

5) $\Delta UTS \cong \Delta ISH$



$\angle U \cong ?$

6) $\Delta CDE \cong \Delta CDM$



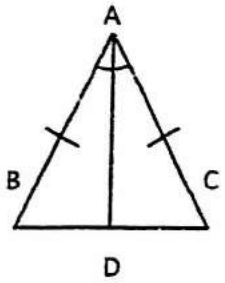
$\overline{EC} \cong ?$

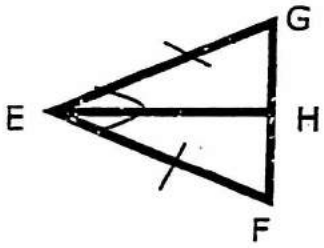
Name _____ Date _____

Proving Triangle Congruence - Independent Practice Worksheet

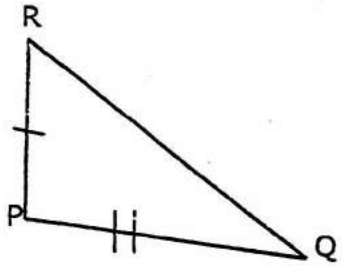
Complete all the problems. Determine if the triangles are congruent. State the proof that can be used to determine the congruent relationship.

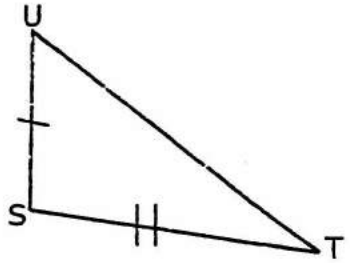
1.



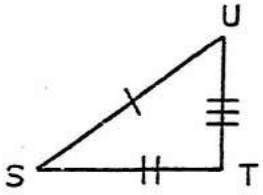


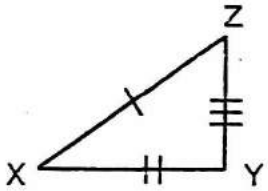
2.



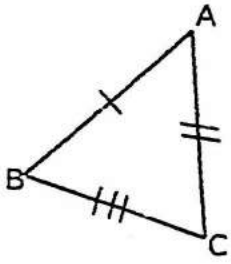


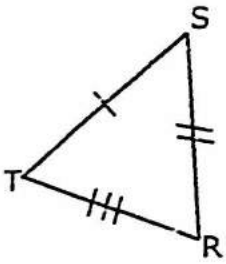
3.





4.



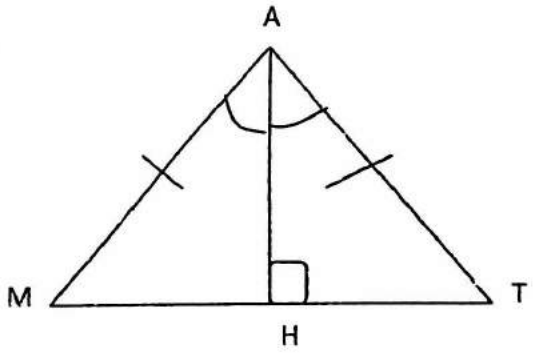


Unit 3 Review Sheet #2
Foundations of Math 2

Name _____

For #1, state the meaning of each marking.

1.



a. _____

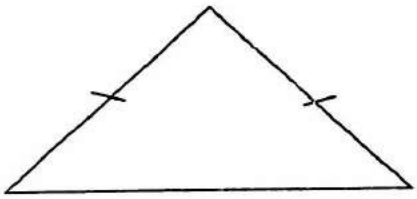
b. _____

c. _____

For # 3-5, describe the triangle using the word bank provided. Each triangle can be described with 2 words.

Acute Δ , right Δ , Obtuse Δ , scalene Δ , isosceles Δ , equilateral Δ

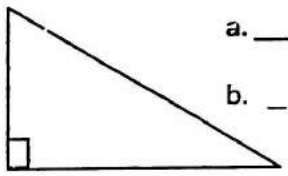
2.



a. _____

b. _____

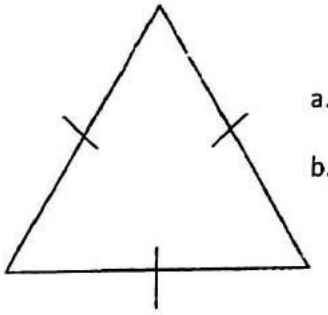
3.



a. _____

b. _____

4.

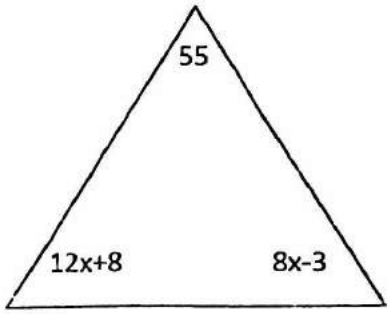


a. _____

b. _____

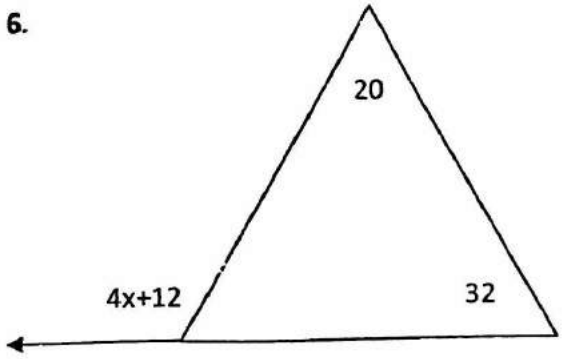
Find x in the following.

5.



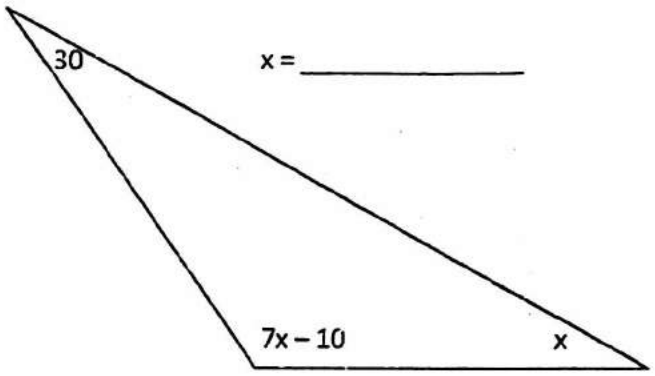
x= _____

6.



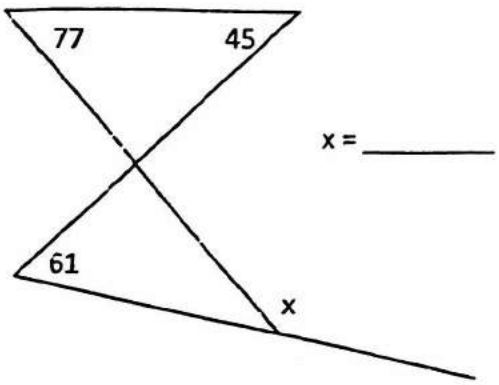
x = _____

7.



x = _____

8.



x = _____

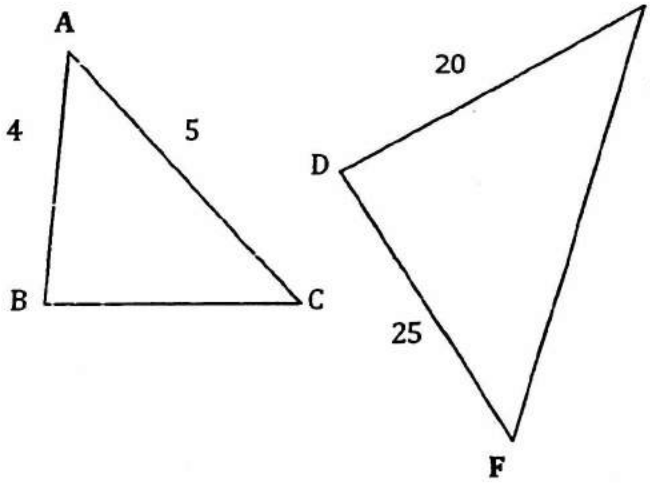
9. Given Δ ABC ~ ΔDEF

a. Complete the following based on the definition of similar triangles. (6 pts)

∠A ≅ _____ _____ ≅ ∠ E _____ ≅ ∠C

$$\frac{AB}{\_\_} = \frac{BC}{\_\_} = \frac{\_\_}{DF}$$

b.



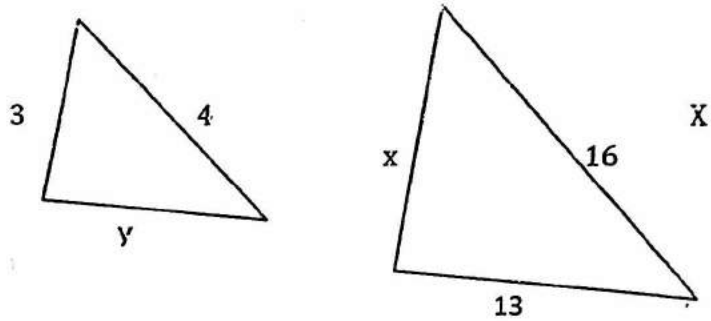
What is the scale factor for ΔABC to ΔDEF?

_____

If CB = 7 EF = _____

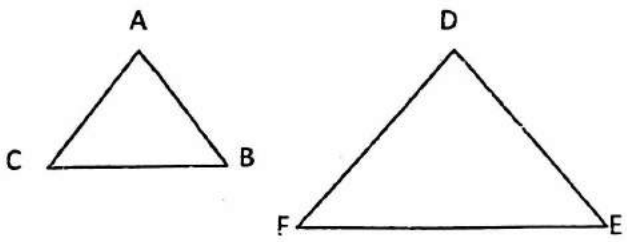
10. Given that the 2 figures are similar, solve for the given variables.

a.



X = _____ Y = _____

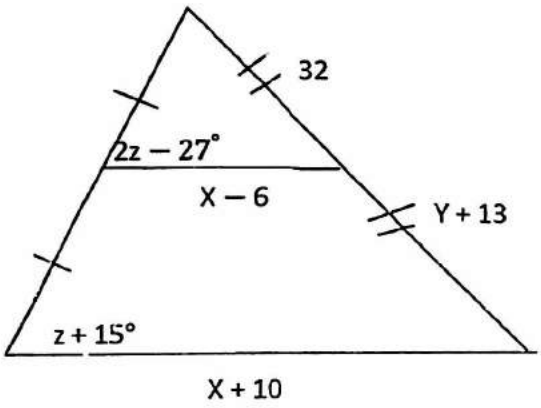
11. Given $\Delta ABC \sim \Delta DEF$, Find X



$AB = x$ $BC = 5$

$EF = 3$ $ED = x - 4$

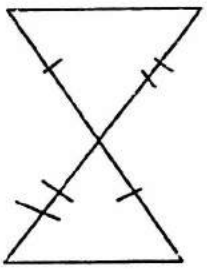
12. Find X, Y, and Z



X = _____ Y = _____ Z = _____

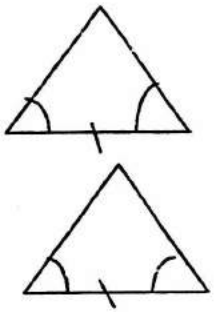
State whether the triangles are congruent by: SSS, SAS, ASA, AAS, or not possible

13.



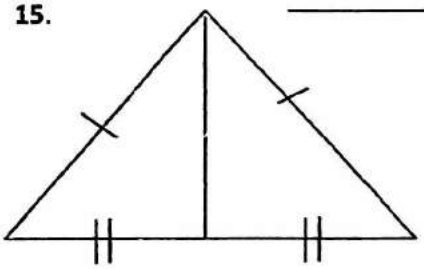
_____

14.



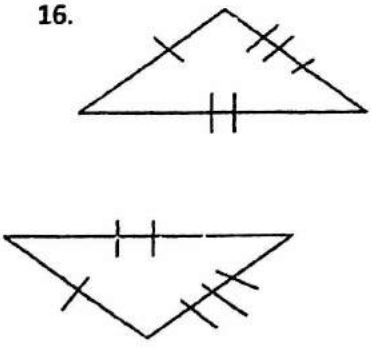
_____

15.

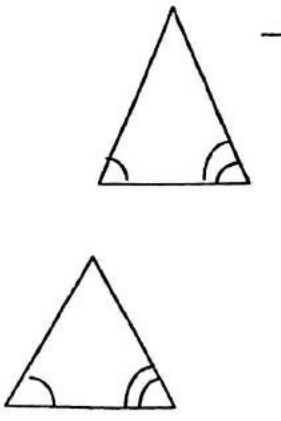


_____

16.

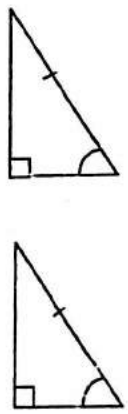


17.



_____

18.



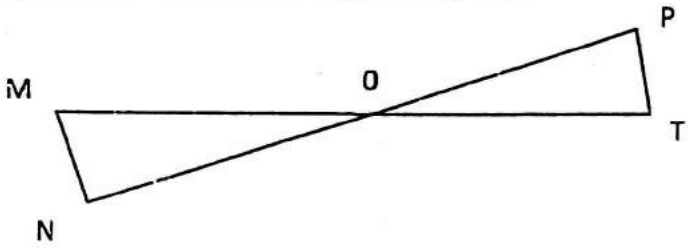
_____

19. Name the congruent angles and sides for each pair of congruent triangles

Given Δ ABC ≅ ΔDEF _____ ≅ _____ _____ ≅ _____ _____ ≅ _____

_____ ≅ _____ _____ ≅ _____ _____ ≅ _____

20. Given $\overline{MO} \cong \overline{TO}$; $\overline{NO} \cong \overline{PO}$, Determine if the triangles are congruent. Write the triangle congruency statement and state which of the 5 postulates made the triangles congruent.

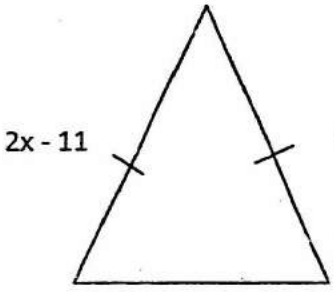


Δ MON ≅ Δ _____

Reason: _____

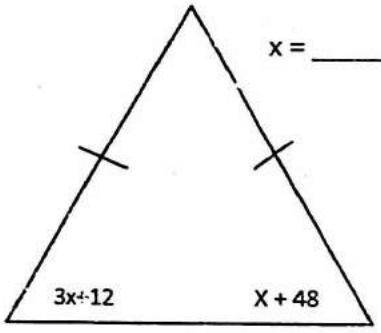
Find x in the following.

21.



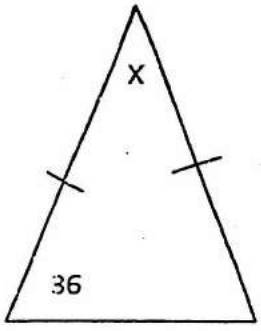
x = _____

22.



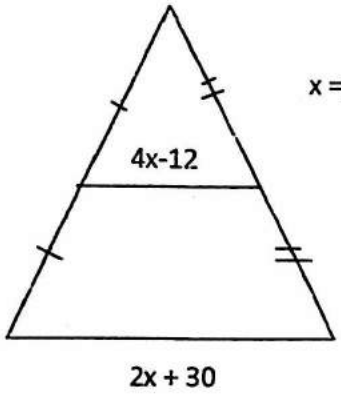
x = _____

23.



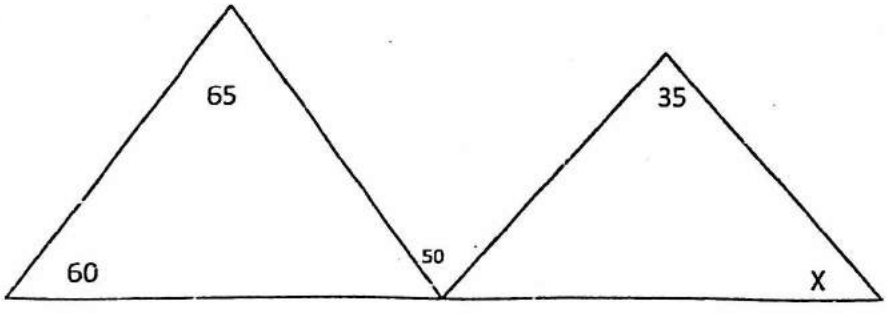
x = _____

24.



x = _____

25.



x = _____