January 28, 2019, Monday

January 30, 2019 Wednesday

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

1) SSS

2) SAS

3) Not Congruent

4) for problem 2, write a congruence statement...

Triangle ABC ≅ Triangle GFC

Jan 24-7:52 AM

Unit 2 Quiz 1

3) vertical ∠s: $5x = 80$, $x = 16$; Alternate exterior ∠s: $2y = 62$, $y = 31$

$x = 16$ $y = 31$ $A = 118$

2y & A supplementary: $2y + A = 180$, $2(31) + A = 180$, $62 + A = 180$, $A = 118$

11) $m\angle 1 = 2x$ $m\angle 2 = 10x$ Linear pair

$2x + 10x = 180$, $12x = 180$, $x = 15$

$m\angle 1 = 30$ $m\angle 2 = 150$

Vocab: alt. int ∠s: 3,6 OR 4,5; alt. ext ∠s: 7,2 OR 1,8; transversal: t

Jan 30-12:05 PM

Unit 2 Test Part 1 Study Guide Name _____ S__

1. Which theorems or rule are used to prove that two triangles are congruent?

SSS, ASA, AAS, SAS, HL

2. Consider the triangles shown. Which rule, if any, can used to prove triangle congruency?

AAS ASA SAS SSS

3. If $m\angle 1 = 45$, $m\angle 2 = 30$ in the diagram below, find $m\angle 3$ and $m\angle 4$.

$\angle 1 + \angle 2 + \angle 3 = 180$, $45 + 30 + \angle 3 = 180$, $75 + \angle 3 = 180$, $\angle 3 = 105$

$\angle 4 = \angle 1 + \angle 2$, $\angle 4 = 45 + 30$, $\angle 4 = 75$

4. In the diagram below $m\angle 1 = 65$, $m\angle 4 = 3x + 5$. Find x and the measure of angle ∠4.

$65 = 3x + 5$, $60 = 3x$, $20 = x$

$\angle 4 = 3x + 5$, $\angle 4 = 3(20) + 5$, $\angle 4 = 60 + 5$, $\angle 4 = 65$

5. Find $m\angle 3$ and $m\angle 2$, if $m\angle 1 = 85$ degress.

6. Find $m<1$ if $m<2 = 5x$ and $m<3 = 6x - 7$.

$\angle 3 + \angle 2 = 180$, $6x - 7 + 5x = 180$, $11x - 7 = 180$, $11x = 187$, $x = 17$

$\angle 1 = \angle 2$, $\angle 1 = 5x$, $\angle 1 = 5(17)$, $\angle 1 = 85$

Jan 24-7:51 AM

7. ΔPQR and ΔSTU are congruent triangles. Using this information, list the corresponding sides and corresponding angles.

Sides	Angles
$PQ \cong ST$	$\angle P \cong \angle S$
$QR \cong TU$	$\angle Q \cong \angle T$
$PR \cong SU$	$\angle R \cong \angle U$

8. For ΔEFG and ΔMNP, it is known that $\overline{EG} \cong \overline{MP}$, $<G \cong <P$, and $\overline{FG} \cong \overline{NP}$. Determine if the triangles are congruent, and if so, by which type of congruency.

a. SSS c. ASA

b. SAS D. It cannot be determined if the triangles are congruent.

9. In this diagram, $\overline{CD}$ is the perpendicular bisector of $\overline{AB}$. The two-column proof shows that $\overline{AC}$ is congruent to $\overline{BC}$. Fill in the missing pieces of the proof. **Bank: AD = BD, Vertical Angles, Reflexive Property, SSS, SAS, HL.** CPCTC

Step	Statement	Reason
1	$\overline{CD}$ is the perpendicular bisector of $\overline{AB}$	Given
2	$\overline{AD} \cong \overline{BD}$	Definition of bisector
3	$\overline{CD} \cong \overline{CD}$	Reflexive Property
4	$AD \cong BD$	Definition of perpendicular lines bisector
5	$\angle ADC \cong \angle BDC$	All right angles are congruent
6	$\Delta ADC \cong \Delta BDC$	SAS
7	$\overline{AC} \cong \overline{BC}$	CPCTC

10. **Given:** $\overline{NO} \parallel \overline{MP}$ and $\overline{MN} \parallel \overline{OP}$

Prove: $MN \cong OP$

Steps	Statements	Reasons
1	$\overline{NO} \parallel \overline{MP}$ and $\overline{MN} \parallel \overline{OP}$	Given
2	$\angle MNP \cong \angle OPN$	Alt. Interior <s are =.
3	$\angle NPM \cong \angle ONP$	Alt. Interior <s are =.
4	$\overline{NP} \cong \overline{NP}$	Reflexive PPOD
5	$\Delta MNP \cong \Delta OPN$	ASA
6	$MN \cong OP$	CPCTC

Jan 24-7:51 AM

11. **Given:** E is the midpoint of $\overline{AC}$ and $\overline{DB}$ **Bank:** $\Delta AEB \cong \Delta CED$, **vertical angles, Defn of midpoint BE = ED**

Prove: $\Delta ABE \cong \Delta CED$

Steps	Statements	Reasons
1	E is the midpoint of AC and DB	Given
2	$\overline{AE} \cong \overline{EC}$	Defn of midpoint
3	$\overline{BE} \cong \overline{ED}$	Definition of a midpoint
4	$\angle AEB \cong \angle CED$	vertical ∠s
5	$\Delta ADE \cong \Delta CED$	SAS

12. ΔDEF and ΔTUV are congruent triangles. Which statement is known to be true?

a. $\overline{DE} \cong \overline{TU}$ c. $\overline{DF} \cong \overline{UV}$

b. $\overline{DF} \cong \overline{TU}$ d. $\overline{DE} \cong \overline{TV}$

13. For ΔABC and ΔDEF, the following is given: $\angle C \cong \angle F$, $\overline{AB} \cong \overline{DE}$, and $\overline{BC} \cong \overline{EF}$. By which triangle congruence statement can it be concluded that the triangles are congruent?

a. SSS c. ASA

b. SAS d. It cannot be determined if the triangles are congruent.

14. ΔUVW and ΔXYZ are congruent triangles. Which statement is known to be true?

a. $<U \cong <V$ c. $<V \cong <X$

b. $<W \cong <X$ d. $<V \cong <Y$

15. Name **one set** of each type of angles below.

Corresponding ∠8, ∠3

Alternate Interior ∠4, ∠5

Alternate Exterior ∠4, ∠5

Vertical ∠4, ∠2

Same side interior ∠2, ∠8

Jan 24-7:52 AM

16. Identify all angle measures.

vertical ∠ are equal, corresponding ∠s are =

$41° = \angle 6 = \angle 1 = \angle 3$

$41° + \angle 5 = 180$, $\angle 5 = 139° = \angle 7 = \angle 4 = \angle 2$

Congruent Triangles

17. Determine whether each pair of triangles is congruent. If so, write a congruence statement, and explain why the triangles are congruent.

STOP!

Theorems about Lines and Angles

19. Name the relationship and then find the missing angle measures by solving for x.

a. $m \parallel n$, $(2x+10)°$, $(65+x)°$

b. $(4x + 6)°$, $(11x - 6)°$

c. $(4x + 24)°$, $(7x - 3)°$

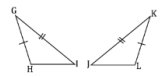
d. $(6x + 7)°$, $(3x + 38)°$

Jan 24-7:54 AM

January 29, 2019, Tuesday

Fill in the missing information for each proof.

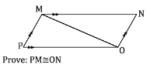
1. Given: $\overline{GH} \cong \overline{KL}$, $\angle G \cong \angle K$, and $\overline{GI} \cong \overline{KJ}$



Prove: $\overline{HI} \cong \overline{LJ}$

Statements	Reasons
1. $GH \cong KL$	1. Given
2.	2. Given
3. $\overline{GI} \cong \overline{KJ}$	3.
4.	4. SAS
5. $\overline{HI} \cong \overline{LJ}$	5.

4. Given: PM∥NO, $\overline{MN} \parallel \overline{PO}$,



Prove: PM≅ON

Statements	Reasons
1. PM∥ON	1.
2.	2. Given
3. ∠PMO≅∠NOP	3.
4.	4. Alternate Interior
5. $\overline{MO} \cong \overline{MO}$	5.
6.	6. ASA
7.	7.

....test

Jan 24-7:50 AM

January 30, 2019, Wednesday

...highly missed from the test...

Jan 24-7:58 AM

11.1 Dilations

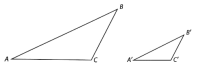
Essential Question: How does a dilation transform a figure?

Resource Locker

Explore 1 Investigating Properties of Dilations

A **dilation** is a transformation that can change the size of a polygon but leaves the shape unchanged. A dilation has a *center of dilation* and a *scale factor* which together determine the position and size of the image of a figure after the dilation.

Use $\triangle ABC$ and its image $\triangle A'B'C'$ after a dilation to answer the following questions.



A Use a ruler to measure the following lengths. Measure to the nearest tenth of a centimeter.

$AB =$? cm $A'B' =$? cm

$AC =$? cm $A'C' =$? cm

$BC =$? cm $B'C' =$? cm

B Use a protractor to measure the corresponding angles.

$m\angle A =$? $m\angle A' =$?

$m\angle B =$? $m\angle B' =$?

$m\angle C =$? $m\angle C' =$?

C Complete the following ratios

$\frac{A'B'}{AB} = \frac{?}{?} = ?$ $\frac{A'C'}{AC} = \frac{?}{?} = ?$ $\frac{B'C'}{BC} = \frac{?}{?} = ?$

Reflect

1. What do you notice about the corresponding sides of the figures? What do you notice about the corresponding angles?
2. **Discussion** What similarities are there between reflections, translations, rotations, and dilations? What is the difference?

Jan 24-7:59 AM

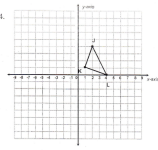
Name:_____ Date:_____

Dilations/Translations Worksheet

Directions: Answer the following questions to the best of your ability. For the y-axis, use the same scaling as the x-axis

1. In Math, the word dilate means to _____ or _____ a figure.
2. If a scale factor is less than 1, then your figure gets _____.
3. If a scale factor is greater than 1, then your figure gets _____.

4.



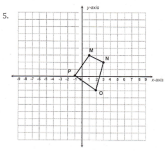
Graph the dilated image of triangle JKL using a scale factor of 2 and (0,0) as the center of dilation.

J: _____ J': _____

K: _____ K': _____

L: _____ L': _____

5.



Graph the dilated image of quadrilateral MNOP using a scale factor of 3 and the origin as the center of dilation.

M: _____ M': _____

N: _____ N': _____

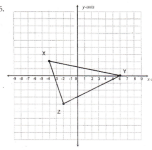
O: _____ O': _____

P: _____ P': _____

Jan 24-8:00 AM

Name:_____ Date:_____

6.



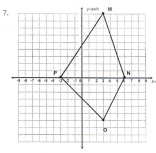
Graph the dilated image of triangle XYZ using a scale factor of 1.5 and (0,0) as the center of dilation.

X: _____ X': _____

Y: _____ Y': _____

Z: _____ Z': _____

7.



Graph the dilated image of quadrilateral MNOP using a scale factor of 1/3 and the origin as the center of dilation.

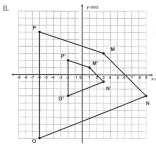
M: _____ M': _____

N: _____ N': _____

O: _____ O': _____

P: _____ P': _____

8.



Describe the dilation of quadrilateral MNOP, using the origin as the center.

_____

_____

Jan 24-8:01 AM

Name:_____ Date:_____

9. The table below shows the coordinates of triangle RST and the coordinates of R' in triangle R'S'T'. Triangle R'S'T' is a dilation of triangle RST.

Triangle RST		Triangle R'S'T'	
R	(−2, −3)	R'	(−6, −9)
S	(0, 2)	S'	
T	(2, −3)	T'	

Part A

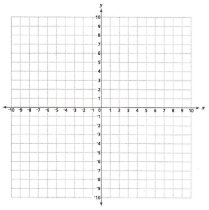
What are the coordinates of point S' and point T'?

Answer S' = (_____ , _____)

T' = (_____ , _____)

Part B

On the grid below, draw triangle RST and triangle R'S'T'.



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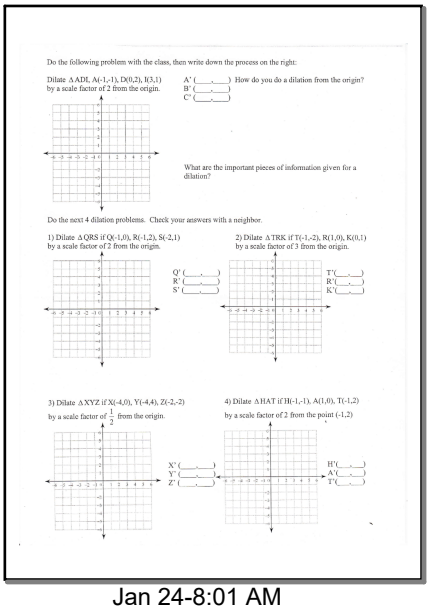

Do the following problem with the class, then write down the process on the right:

Dilate ΔADI, A(-1,-1), D(0,2), I(3,1) by a scale factor of 2 from the origin.

A' (___,___)
B' (___,___)
C' (___,___)

How do you do a dilation from the origin?

What are the important pieces of information given for a dilation?

Do the next 4 dilation problems. Check your answers with a neighbor.

1) Dilate ΔQRS if Q(-1,0), R(-1,2), S(-2,1) by a scale factor of 2 from the origin.

Q' (___,___)
R' (___,___)
S' (___,___)

2) Dilate ΔTRK if T(-1,-2), R(1,0), K(0,1) by a scale factor of 3 from the origin.

T'(___,___)
R'(___,___)
K'(___,___)

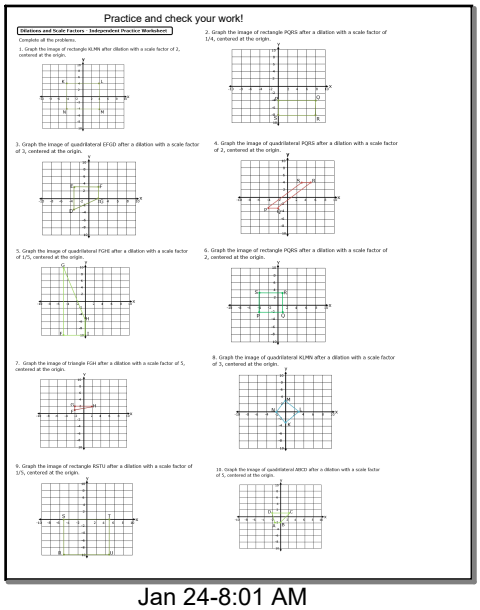
3) Dilate ΔXYZ if X(-4,0), Y(-4,4), Z(-2,-2) by a scale factor of $\frac{1}{2}$ from the origin.

X' (___,___)
Y' (___,___)
Z' (___,___)

4) Dilate ΔHAT if H(-1,-1), A(1,0), T(-1,2) by a scale factor of 2 from the point (-1,2)

H'(___,___)
A'(___,___)
T'(___,___)

Jan 24-8:01 AM


Practice and check your work!

Dilations and Scale Factors - Independent Practice Worksheet

Complete all the problems.

1. Graph the image of rectangle KLMN after dilation with a scale factor of 2, centered at the origin.

2. Graph the image of rectangle PQRS after a dilation with a scale factor of 1/4, centered at the origin.

3. Graph the image of quadrilateral EFGD after a dilation with a scale factor of 3, centered at the origin.

4. Graph the image of quadrilateral PQRS after a dilation with a scale factor of 2, centered at the origin.

5. Graph the image of quadrilateral FGHE after a dilation with a scale factor of 1/5, centered at the origin.

6. Graph the image of rectangle PQRS after a dilation with a scale factor of 2, centered at the origin.

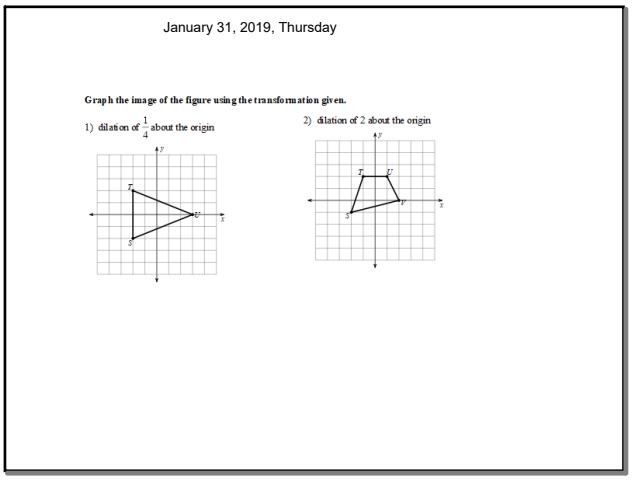
7. Graph the image of triangle FGH after a dilation with a scale factor of 5, centered at the origin.

8. Graph the image of quadrilateral KLMN after a dilation with a scale factor of 3, centered at the origin.

9. Graph the image of rectangle RSTU after a dilation with a scale factor of 1/5, centered at the origin.

10. Graph the image of quadrilateral ABCD after a dilation with a scale factor of 3, centered at the origin.

Jan 24-8:01 AM

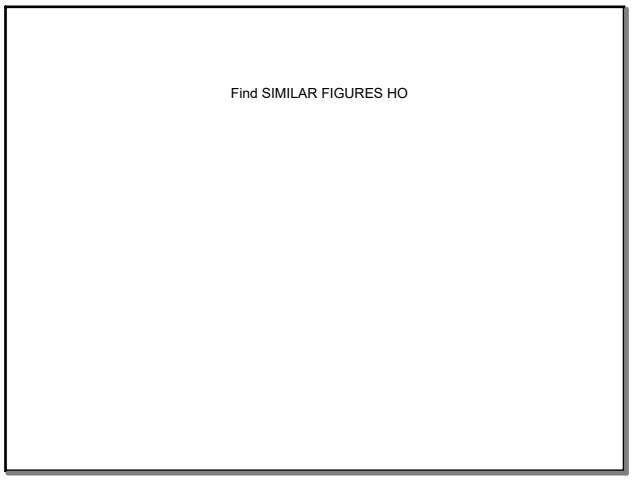

January 31, 2019, Thursday

Graph the image of the figure using the transformation given.

1) dilation of $\frac{1}{4}$ about the origin

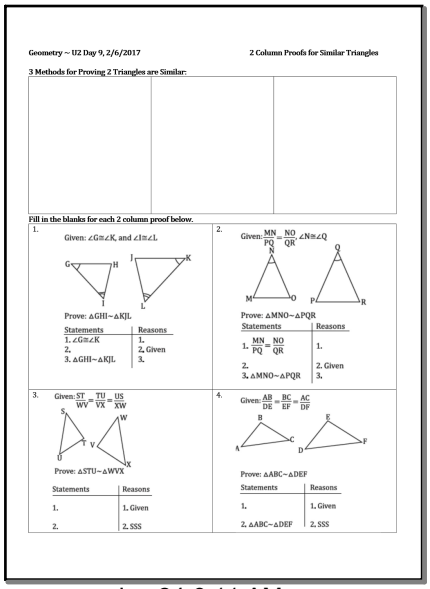
2) dilation of 2 about the origin

Jan 24-8:06 AM


Find SIMILAR FIGURES HO

Jan 24-8:09 AM


Jan 24-9:32 AM


Geometry ~ U2 Day 9, 2/6/2017 **2 Column Proofs for Similar Triangles**

3 Methods for Proving 2 Triangles are Similar:

Fill in the blanks for each 2 column proof below.

1. Given: ∠G≅∠K, and ∠I≅∠L

Prove: ΔGHI~ΔKJL

Statements	Reasons
1. ∠G≅∠K	1.
2.	2. Given
3. ΔGHI~ΔKJL	3.

2. Given: $\frac{MN}{PQ}=\frac{NO}{QR}$, ∠N≅∠Q

Prove: ΔMNO~ΔPQR

Statements	Reasons
1. $\frac{MN}{PQ}=\frac{NO}{QR}$	1.
2.	2. Given
3. ΔMNO~ΔPQR	3.

3. Given: $\frac{ST}{WV}=\frac{TU}{VX}=\frac{US}{XW}$

Prove: ΔSTU~ΔWVX

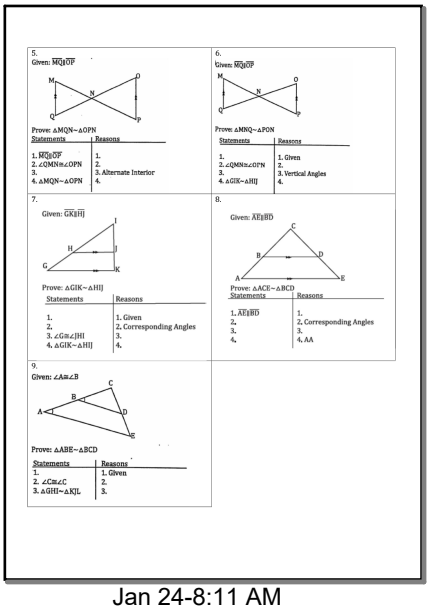
Statements	Reasons
1.	1. Given
2.	2. SSS

4. Given: $\frac{AB}{DE}=\frac{BC}{EF}=\frac{AC}{DF}$

Prove: ΔABC~ΔDEF

Statements	Reasons
1.	1. Given
2. ΔABC~ΔDEF	2. SSS

Jan 24-8:11 AM


5. Given: $\overline{MQ} \cong \overline{OP}$

Prove: $\triangle MQN \sim \triangle OPN$

Statements	Reasons
1. $\overline{MQ} \cong \overline{OP}$	1.
2. $\angle QMN \cong \angle OPN$	2.
3.	3. Alternate Interior
4. $\triangle MQN \sim \triangle OPN$	4.

6. Given: $\overline{MQ} \cong \overline{OP}$

Prove: $\triangle MNQ \sim \triangle PON$

Statements	Reasons
1.	1. Given
2. $\angle QMN \cong \angle OPN$	2.
3.	3. Vertical Angles
4. $\triangle GIK \sim \triangle HIJ$	4.

7. Given: $\overline{GK} \parallel \overline{HJ}$

Prove: $\triangle GIK \sim \triangle HIJ$

Statements	Reasons
1.	1. Given
2.	2. Corresponding Angles
3. $\angle G \cong \angle JHI$	3.
4. $\angle GIK \sim \angle HIJ$	4.

8. Given: $\overline{AE} \parallel \overline{BD}$

Prove: $\triangle ACE \sim \triangle BCD$

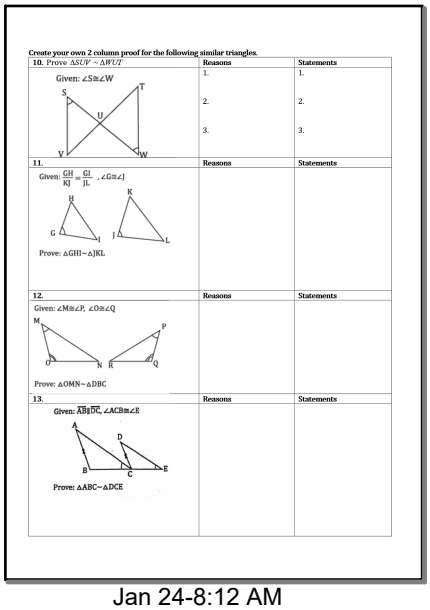
Statements	Reasons
1. $\overline{AE} \parallel \overline{BD}$	1.
2.	2. Corresponding Angles
3.	3.
4.	4. AA

9. Given: $\angle A \cong \angle B$

Prove: $\triangle ABE \sim \triangle BCD$

Statements	Reasons
1.	1. Given
2. $\angle C \cong \angle C$	2.
3. $\triangle GHI \sim \triangle KJL$	3.

Jan 24-8:11 AM


Create your own 2 column proof for the following similar triangles.

10. Prove $\triangle SUV \sim \triangle WUT$

Given: $\angle S \cong \angle W$

Reasons	Statements
1.	1.
2.	2.
3.	3.

11.

Given: $\frac{GH}{KJ} = \frac{GI}{JL}$, $\angle G \cong \angle J$

Prove: $\triangle GHI \sim \triangle JKL$

Reasons	Statements

12.

Given: $\angle M \cong \angle P$, $\angle O \cong \angle Q$

Prove: $\triangle OMN \sim \triangle DBC$

Reasons	Statements

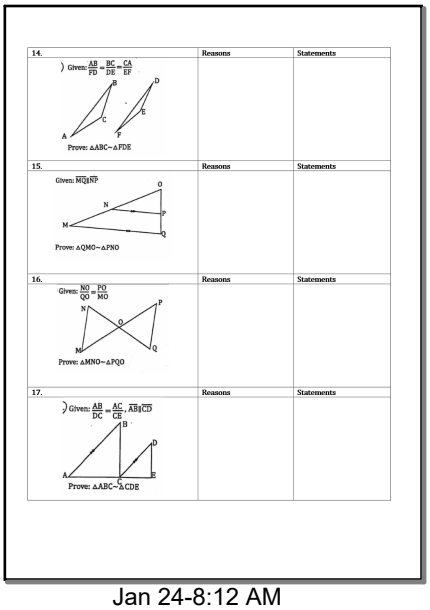
13.

Given: $\overline{AB} \parallel \overline{DC}$, $\angle ACB \cong \angle E$

Prove: $\triangle ABC \sim \triangle DCE$

Reasons	Statements

Jan 24-8:12 AM


14. Given: $\frac{AB}{FD} = \frac{BC}{DE} = \frac{CA}{EF}$

Prove: $\triangle ABC \sim \triangle FDE$

Reasons	Statements

15. Given: $\overline{MQ} \cong \overline{NP}$

Prove: $\triangle QMO \sim \triangle PNO$

Reasons	Statements

16. Given: $\frac{NO}{QO} = \frac{PO}{MO}$

Prove: $\triangle MNO \sim \triangle PQO$

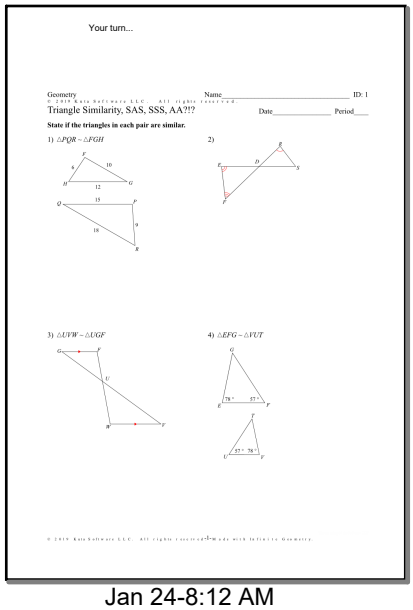
Reasons	Statements

17. Given: $\frac{AB}{DC} = \frac{AC}{CE}$, $\overline{AB} \parallel \overline{CD}$

Prove: $\triangle ABC \sim \triangle CDE$

Reasons	Statements

Jan 24-8:12 AM


Your turn...

Geometry Name_____ ID: 1

Triangle Similarity, SAS, SSS, AA?!?

Date_____ Period____

State if the triangles in each pair are similar.

1) $\triangle PQR \sim \triangle FGH$

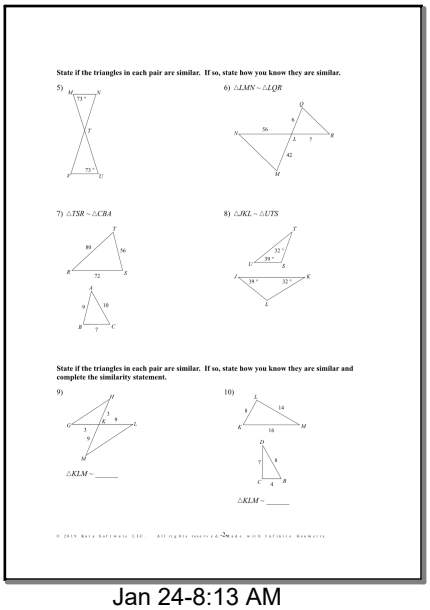
2)

3) $\triangle UVW \sim \triangle UGF$

4) $\triangle EFG \sim \triangle VUT$

  Made with Infinite Geometry.

Jan 24-8:12 AM


State if the triangles in each pair are similar. If so, state how you know they are similar.

5)

6) $\triangle LMN \sim \triangle LQR$

7) $\triangle TSR \sim \triangle CBA$

8) $\triangle JKL \sim \triangle UTS$

State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

9)

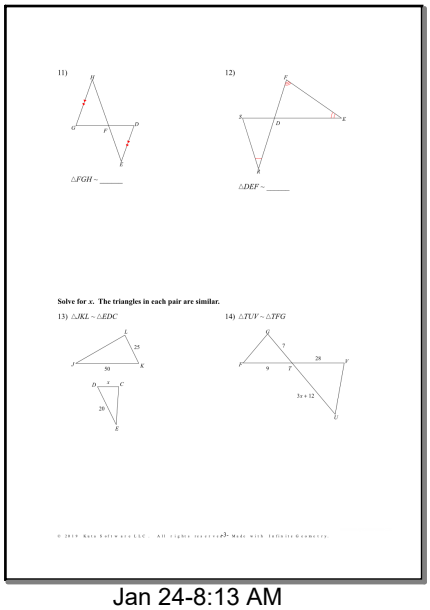
$\triangle KLM \sim$ _____

10)

$\triangle KLM \sim$ _____

  Made with Infinite Geometry.

Jan 24-8:13 AM


11)

$\triangle FGH \sim$ _____

12)

$\triangle DEF \sim$ _____

Solve for x. The triangles in each pair are similar.

13) $\triangle JKL \sim \triangle EDC$

14) $\triangle TUV \sim \triangle TFG$

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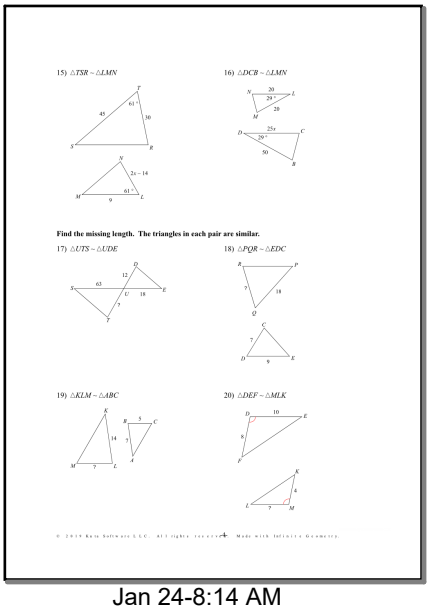

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February 1, 2019, Friday

What are the 3 ways to prove triangle similarity?
Write an example of a set of triangles using one of the ways...

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FIND PARALLEL LINES REVIST#ED

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