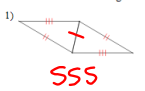
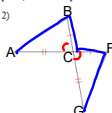
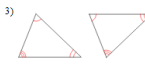


January 28, 2019, Monday
January 30, 2019 Wednesday

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

1)  **SSS**

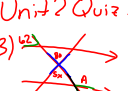
2)  **SAS**

3)  **Not Congruent**

4) for problem 2, write a congruence statement...
Triangle ABC = Triangle **GFC**

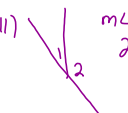
Jan 24-7:52 AM

Unit 2 Quiz 1


3)  **vertical Ls**
 $5x = 80$
 $x = 16$
 $x = 16, y = 31, A = 118$

Alternat exterior Ls
 $2y = 62$
 $y = 31$

2y + A = 180
 $2(31) + A = 180$
 $62 + A = 180$
 $-62 -62$
A = 118

11)  **Linear pair**
 $2x + 10x = 180$
 $12x = 180$
 $x = 15$
mL1 = 30 mL2 = 150

alt. int Ls: 3.6 OR 4.5
alt. ext Ls: 7.2 OR 1.8
transversal: t



Jan 30-12:05 PM

Unit 2 Test Part 1 Study Guide

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 be 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 $m\angle 4$.
 $\angle 1 + \angle 2 + \angle 3 = 180$
 $45 + 30 + \angle 3 = 180$
 $75 + \angle 3 = 180$
 $-\ 75 - 75$
 $\angle 3 = 105$
 $\angle 4 = 4\angle 2$
 $\angle 4 = 4(30)$
 $\angle 4 = 120$

4. In the diagram below $m\angle 1 = 65, m\angle 4 = 3x + 5$. Find $m\angle 2$ and $m\angle 3$.
 $65 = 3x + 5$
 $60 = 3x$
 $20 = x$
 $\angle 4 = 3(20) + 5$
 $\angle 4 = 60 + 5$
 $\angle 4 = 65$

5. Find $m\angle 3$ and $m\angle 2$, if $m\angle 1 = 85$ degrees.
 $85 + \angle 2 = 180$
 $6x - 75 + \angle 2 = 180$
 $11x = 180$
 $x = 16$
 $\angle 1 = \angle 2$
 $\angle 1 = 85$
 $\angle 2 = 95$

6. Find $m\angle 1$ if $m\angle 2 = 5x$ and $m\angle 3 = 6x - 1$.
 $5x + 6x - 1 = 180$
 $11x = 181$
 $x = 16$
 $\angle 1 = 5(16)$
 $\angle 1 = 80$

Jan 24-7:51 AM

7. $\triangle PQR$ and $\triangle STU$ are congruent triangles. Using this information, list the corresponding sides and corresponding angles.
Sides: PQ=ST, QR=TU, PR=SU
Angles: $\angle P \cong \angle S, \angle Q \cong \angle T, \angle R \cong \angle U$

8. For $\triangle EFG$ and $\triangle MNP$, it is known that $EG \cong MP, \angle G \cong \angle P$, and $FG \cong NP$. Determine if the triangles are congruent, and if so, by which type of congruency.
a. SSS b. ASA c. SAS d. It cannot be determined if the triangles are congruent.

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

Step	Statement	Reason
1	\overline{ED} is the perpendicular bisector of \overline{AB}	Given
2	$AD = BD$	Definition of bisector
3	$\angle CDA = \angle CDB$	Vertical Angles
4	$CD \cong CD$	Reflexive Property
5	$\triangle ADC \cong \triangle BDC$	SAS
6	$\angle C \cong \angle C$	CPCTC

10. Given: \overline{ND} is \overline{MP} and \overline{NV} is \overline{OP} .
Prove: $\triangle MN \cong \triangle OP$

Steps	Statements	Reasons
1	$\overline{ND} \cong \overline{MP}$ and $\overline{NV} \cong \overline{OP}$	Given
2	$\angle MNP \cong \angle OPV$	Alt. Interior \angle 's are \cong
3	$\triangle MNP \cong \triangle OPV$	ASA
4	$\overline{MN} \cong \overline{OP}$	CPCTC

Jan 24-7:51 AM

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

Steps	Statements	Reasons
1	E is the midpoint of \overline{AC} and \overline{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 \angle 's
5	$\triangle ABE \cong \triangle CED$	SAS

12. $\triangle DEF$ and $\triangle TVP$ are congruent triangles. Which statement is known to be true?
a. $\overline{DE} \cong \overline{TV}$ b. $\overline{DF} \cong \overline{TV}$ c. $\overline{DF} \cong \overline{VP}$ d. $\overline{DE} \cong \overline{VP}$

13. For $\triangle ABC$ and $\triangle DEF$, the following is given: $\angle C \cong \angle F, AB \cong DE$, and $BC \cong EF$. By which triangle congruence statement can it be proved that the triangles are congruent?
a. SSS b. SAS c. ASA d. It cannot be determined if the triangles are congruent.

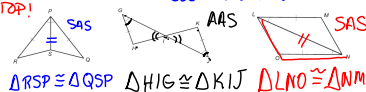
14. $\triangle PQR$ and $\triangle XYZ$ are congruent triangles. Which statement is known to be true?
a. $\angle Q \cong \angle X$ b. $\angle W \cong \angle X$ c. $\angle Y \cong \angle X$

15. Name one set of each type of angles below.
Corresponding: $\angle 8, \angle 3$
Alternate Interior: $\angle 2, \angle 7$
Alternate Exterior: $\angle 4, \angle 5$
Vertical: $\angle 4, \angle 3$
Same side interior: $\angle 4, \angle 8$

Jan 24-7:52 AM

16. Identify all angle measures.
vertical \angle 's are equal, corresponding \angle 's are \cong
 $41^\circ = \angle 6 = \angle 1 = \angle 3$
 $41^\circ + \angle 5 = 180$
 $41^\circ + \angle 5 = 180$
 $-\ 41 - 41$
 $\angle 5 = 139$
 $\angle 7 = \angle 4 = \angle 2$

17. Determine whether each pair of triangles is congruent. If so, give the congruence statement and explain why the triangles are congruent.
SSS, AAS, SAS, ASA, HL

STOP! 

$\triangle RSP \cong \triangle QSP$ $\triangle HIG \cong \triangle KIJ$ $\triangle LNO \cong \triangle ANM$

Theorems about Lines and Angles

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

a. $2x + 10 = 16$ **Alternate \angle 's**
 $2x + 10 = 86 + x$
 $x = 76$
 $86 + 76 = 162$
 $4(76) + 7 = 311$

b. $3x + 10 = 110$ **Supplementary \angle 's**
 $4x + 6 + 11x + 6 = 180$
 $15x + 12 = 180$
 $15x = 168$
 $x = 11.2$

c. $4x + 24 = 7x + 3$ **Vertical angle**
 $4x + 24 = 7x + 3$
 $- 4x - 4x$
 $24 = 3x + 3$
 $21 = 3x$
 $7 = x$

d. $6(15) + 7 = 92$ **Some Side Int \angle 's**
 $3x + 38 + 6x + 7 = 180$
 $9x + 45 = 180$
 $- 45 - 45$
 $9x = 135$
 $x = 15$

Jan 24-7:54 AM

You may skip any 2 problems, but they must be on different pages.

Please clear write SKIP on the problem.

If you do not skip any problems, all will be graded!

Good luck!

Jan 31-1:00 PM

Answer:

Geogebra dilations what is the scale factor? → What does the scale factor, k, do?

Geogebra dilations, change the scale factor → What happens when the scale is between 0-1, then 1, then greater than 1?

Geogebra dilations about the origin → Sketch two of the pictures you can create with this Geogebra file.

Jan 31-1:16 PM

January 29, 2019, Tuesday
January 31, 2019, Thursday

Fill in the missing information for each proof.

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

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

Statements	Reasons
1. $\overline{GH} \cong \overline{KL}$	1. Given
2. $\angle G \cong \angle L$	2. Given
3. $\angle H \cong \angle K$	3. Given
4. $\triangle GHI \cong \triangle KJL$	4. SAS
5. $\overline{HI} \cong \overline{LJ}$	5. CPCTC

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

Prove: $\overline{PM} \cong \overline{ON}$

Statements	Reasons
1. $\overline{PM} \parallel \overline{NO}$	1. Given
2. $\overline{MN} \parallel \overline{PO}$	2. Given
3. $\angle PMO \cong \angle NOP$	3. Alternate Int
4. $\angle MNO \cong \angle PON$	4. Alternate Interior
5. $\overline{MO} \cong \overline{NO}$	5. Reflexive Property
6. $\triangle POM \cong \triangle ONO$	6. ASA
7. $\overline{PM} \cong \overline{ON}$	7. CPCTC

...test, after we finish the SG!

Jan 24-7:50 AM

January 30, 2019, Wednesday ...highly missed from the test...

February 1, 2019, Friday - yay!

5. If $m\angle 1 = 4x$ and $m\angle 4 = 3x - 1$ in the diagram below, find $m\angle 2$ if $m\angle 3$ is a right angle.

A. 142°
B. 52°
C. 38°
D. 27°

6. Find $m\angle 2$ if $m\angle 1 = 5x + 12$ and $m\angle 3 = 3x - 12$.

A. 112°
B. 10°
C. 180°
D. 68°

Complete each two-column proof. Use the information shown on the graph as the given information.

12.

Statement	Reason
1. $\overline{AC} \cong \overline{DB}$	1. Given
2. $\angle ACD \cong \angle DBA$	2. alternate int. \angle s
3. $\angle CAD \cong \angle BDA$	3. Reflexive Property
4. $\triangle ACD \cong \triangle DBA$	4. AAS

14. Using the figure below, find each measure of each numbered angle.

$m\angle 1 = 60$
 $m\angle 2 = 120$
 $m\angle 3 = 120$
 $m\angle 4 = 60$

Jan 24-7:58 AM

test review.....

10) B. SAS

11) B. HL

Feb 1-12:30 PM

11.1 Dilations

Special Questions: How does a dilation transform a figure?

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.

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

$AB = 63 \text{ mm} \rightarrow 31.5 \text{ mm}$
 $BC = 44 \text{ mm} \rightarrow 22 \text{ mm}$
 $AC = 31 \text{ mm} \rightarrow 15.5 \text{ mm}$

2. Use a protractor to measure the following corresponding angles.

$\angle A = 30^\circ$
 $\angle B = 42^\circ$
 $\angle C = 115^\circ$

3. Complete the following ratios.

$\frac{AB}{A'B'} = \frac{30}{60} = \frac{1}{2}$, $\frac{BC}{B'C'} = \frac{44}{88} = \frac{1}{2}$, $\frac{AC}{A'C'} = \frac{31}{62} = \frac{1}{2}$

4. Notice that the corresponding sides are twice the size of the image. The corresponding angles are the same size.

5. Dilation: All move in the same direction. All can be graphed. Dilations change size. Reflections, Translations, Rotations.

Jan 24-7:59 AM

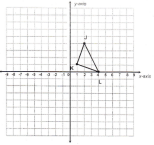
Name: _____ Date: _____

Dilations/Translations Worksheet

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

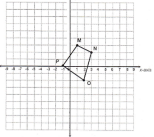
- In Math, the word dilate means to _____ or _____ a figure.
- If a scale factor is less than 1, then your figure gets _____.
- If a scale factor is greater than 1, then your figure gets _____.

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



J: _____ K: _____ L: _____
 J': _____ K': _____ L': _____

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

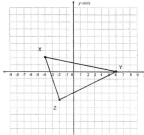


M: _____ N: _____ O: _____ P: _____
 M': _____ N': _____ O': _____ P': _____

Jan 24-8:00 AM

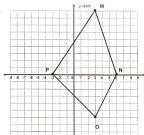
Name: _____ Date: _____

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



X: _____ Y: _____ Z: _____
 X': _____ Y': _____ Z': _____

7. Graph the dilated image of quadrilateral MNOP using a scale factor of 2/3 and the origin as the center of dilation.



M: _____ N: _____ O: _____ P: _____
 M': _____ N': _____ O': _____ P': _____

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

Jan 24-8:01 AM

Name: _____ Date: _____

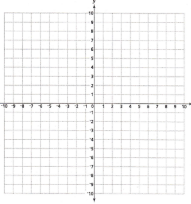
9. The table below shows the coordinates of triangle RST and the coordinates of R' in triangle R'S'T'. Triangle R'S'T' is a dilation of triangle RST.

Triangle RST	Triangle R'S'T'
R (-2, -3)	R' (-4, -6)
S (0, 0)	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'.

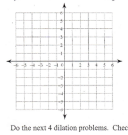


Jan 24-8:01 AM

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

Dilate $\triangle ADE$ with $(-1, 1)$, $D(0, 2)$, $E(3, 1)$ by a scale factor of 2 from the origin.

A' (_____) B' (_____) C' (_____) How do you do a dilation from the origin?

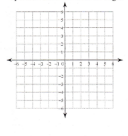


What are the important pieces of information given for a dilation?

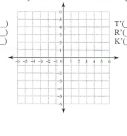
Do the next 4 dilation problems. Check your answers with a neighbor.

1) Dilate $\triangle QRS$ with $Q(-1, 0)$, $R(-1, 2)$, $S(-2, 1)$ by a scale factor of 2 from the origin.

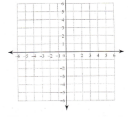
Q' (_____) R' (_____) S' (_____) T' (_____) U' (_____) V' (_____) W' (_____) X' (_____) Y' (_____) Z' (_____) How do you do a dilation from the origin?



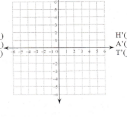
2) Dilate $\triangle TRK$ with $T(-1, 2)$, $R(1, 0)$, $K(0, 1)$ by a scale factor of 3 from the origin.



3) Dilate $\triangle XYZ$ with $X(-4, 0)$, $Y(-4, 0)$, $Z(-3, 2)$ by a scale factor of 1/2 from the origin.



4) Dilate $\triangle HAT$ with $H(-1, 1)$, $A(1, 0)$, $T(1, 2)$ by a scale factor of 2 from the point $(1, 2)$.

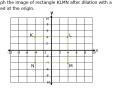


Jan 24-8:01 AM

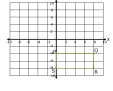
Practice and check your work!

Dilations and Scale Factors - Independent Practice Worksheet

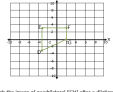
1. Graph the image of rectangle ABCD after dilation with a scale factor of 2, centered at the origin.



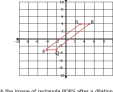
2. Graph the image of rectangle PQRS after dilation with a scale factor of 1/2, centered at the origin.



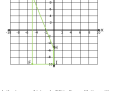
3. Graph the image of quadrilateral EFGH after a dilation with a scale factor of 2, centered at the origin.



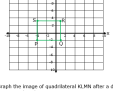
4. Graph the image of quadrilateral PQRS after a dilation with a scale factor of 2, centered at the origin.



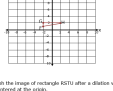
5. Graph the image of quadrilateral PQRS after a dilation with a scale factor of 1/2, centered at the origin.



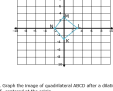
6. Graph the image of rectangle PQRS after a dilation with a scale factor of 2, centered at the origin.




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



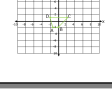
8. Graph the image of quadrilateral MNOP after a dilation with a scale factor of 2, centered at the origin.



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



10. Graph the image of quadrilateral ABCD after a dilation with a scale factor of 1/2, centered at the origin.

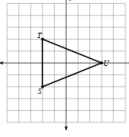


Jan 24-8:01 AM

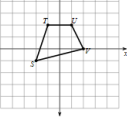
January 31, 2019, Thursday

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: $\angle G \cong \angle K$ and $\angle I \cong \angle L$

Prove: $\triangle GHI \sim \triangle KIL$

Statements	Reasons
1. $\angle G \cong \angle K$	1. Given
2. $\angle I \cong \angle L$	2. Given
3. $\triangle GHI \sim \triangle KIL$	3.

2. Given: $\frac{MN}{PS} = \frac{NO}{QR}$ and $\angle M \cong \angle P$

Prove: $\triangle MNO \sim \triangle PSQ$

Statements	Reasons
1. $\frac{MN}{PS} = \frac{NO}{QR}$	1. Given
2. $\angle M \cong \angle P$	2. Given
3. $\triangle MNO \sim \triangle PSQ$	3.

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

Prove: $\triangle STU \sim \triangle VWX$

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

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

Prove: $\triangle ABC \sim \triangle DEF$

Statements	Reasons
1.	1. Given
2. $\triangle ABC \sim \triangle DEF$	2. SSS

Jan 24-8:11 AM

5. Given: $\overline{MQ} \parallel \overline{DP}$

Prove: $\triangle MQN \sim \triangle DPN$

Statements	Reasons
1. $\angle MQN \cong \angle DPN$	1.
2. $\angle QMN \cong \angle PND$	2. Alternate Interior
3. $\angle MNQ \cong \angle PND$	3.
4. $\triangle MQN \sim \triangle DPN$	4.

6. Given: $\overline{MQ} \parallel \overline{DP}$

Prove: $\triangle MQN \sim \triangle DPN$

Statements	Reasons
1. $\angle MQN \cong \angle DPN$	1. Given
2. $\angle QMN \cong \angle PND$	2. Vertical Angles
3. $\angle MNQ \cong \angle PND$	3.
4. $\triangle MQN \sim \triangle DPN$	4.

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

Prove: $\triangle CKH \sim \triangle HJH$

Statements	Reasons
1.	1. Given
2. $\angle CKH \cong \angle HJH$	2. Corresponding Angles
3. $\angle KCH \cong \angle HJH$	3.
4. $\triangle CKH \sim \triangle HJH$	4.

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

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

Statements	Reasons
1. $\overline{AE} \parallel \overline{BD}$	1. Given
2. $\angle CAE \cong \angle CBD$	2. Corresponding Angles
3.	3.
4. AA	4. AA

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

Prove: $\triangle ABC \sim \triangle BCD$

Statements	Reasons
1.	1. Given
2. $\angle C \cong \angle C$	2.
3. $\triangle ABC \sim \triangle BCD$	3.

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

10. Prove: $\triangle SUP \sim \triangle PUF$

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

11. Given: $\frac{GH}{KI} = \frac{GI}{KI}$, $\angle G \cong \angle I$

Prove: $\triangle GHI \sim \triangle KIL$

Reasons	Statements

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

Prove: $\triangle OMN \sim \triangle PQR$

Reasons	Statements

13. Given: $\overline{AD} \parallel \overline{BC}$, $\angle ACB \cong \angle E$

Prove: $\triangle ABC \sim \triangle ACE$

Reasons	Statements

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14. Given: $\frac{AB}{FD} = \frac{BC}{FE}$

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

Reasons	Statements

15. Given: $\overline{MQ} \parallel \overline{DP}$

Prove: $\triangle MQN \sim \triangle DPN$

Reasons	Statements

16. Given: $\frac{NO}{OP} = \frac{PO}{OQ}$

Prove: $\triangle MNO \sim \triangle POQ$

Reasons	Statements

17. Given: $\frac{AB}{DC} = \frac{AC}{CE}$, $\angle ACB \cong \angle E$

Prove: $\triangle ABC \sim \triangle ACE$

Reasons	Statements

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Your turn...

Geometry _____ Name _____ ID: 1
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 Triangle Similarity, SAS, SSS, AA???

State if the triangles in each pair are similar.

1) $\triangle PQR \sim \triangle RGH$

2)

3) $\triangle PQR \sim \triangle RGH$

4) $\triangle PQR \sim \triangle RGH$

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

5) $\triangle MNP \sim \triangle RST$

6) $\triangle MNP \sim \triangle RST$

7) $\triangle TSR \sim \triangle RSM$

8) $\triangle RKE \sim \triangle LKS$

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

9) $\triangle KLM \sim \underline{\hspace{2cm}}$

10) $\triangle KLM \sim \underline{\hspace{2cm}}$

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11)

$\triangle PQR \sim \underline{\hspace{2cm}}$

12)

$\triangle DEF \sim \underline{\hspace{2cm}}$

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

13) $\triangle RKL \sim \triangle EDC$

14) $\triangle TUV \sim \triangle FGH$

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15) $\triangle TSR \sim \triangle LMN$

16) $\triangle DCB \sim \triangle LMN$

Find the missing length. The triangles in each pair are similar.

17) $\triangle UTS \sim \triangle UDE$

18) $\triangle PQR \sim \triangle EDC$

19) $\triangle KLM \sim \triangle ABC$

20) $\triangle DEF \sim \triangle MLK$

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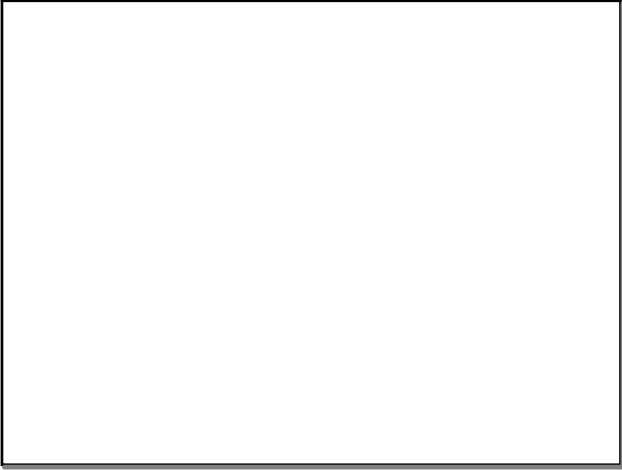
February 1, 2019, Friday

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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