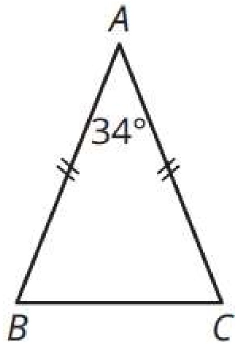
Edulastic

1/19 version of Geometry Interim 3 Review

Collection: **Draft**

Created by Robert Upham

Q1: What is the measure of $\angle B$?



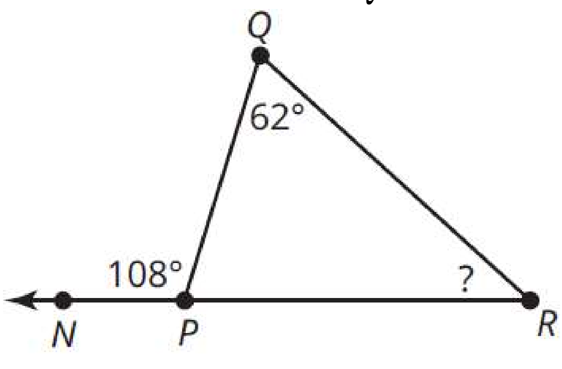
A 34°

B 56°

C 73°

D 146°

Q2: What is the measure of $\angle PRQ$?



A 28°

B 46°

C 75°

D 170°

Q3: Michael draws a quadrilateral that has four congruent sides, but does not have congruent angles. Which best describes the quadrilateral formed?

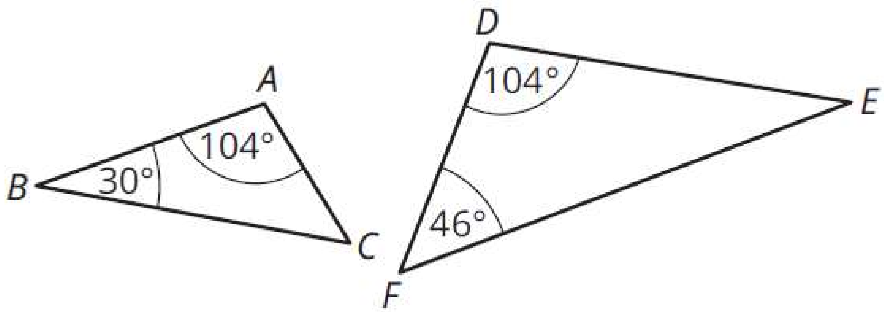
A rectangle

B rhombus

C square

D trapezoid

Q4: What theorem could be used to show triangles ABC and DEF are similar?



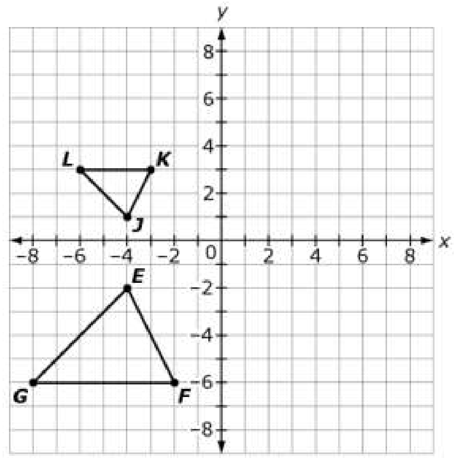
A Side-Side-Side Similarity Theorem

B Side-Angle-Side Similarity Theorem

C Angle-Angle Similarity Theorem

D Side-Side Similarity Theorem

Q5: Two triangles are shown.



Which sequence of transformations could be performed on ΔEFG to show that it is similar to ΔJKL?

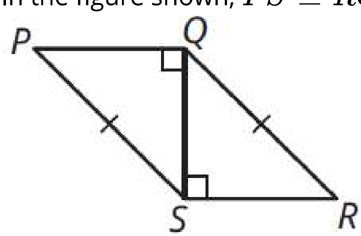
A Rotate ΔEFG 90° clockwise about the origin, and then dilate it by a scale factor of $\frac{1}{2}$ with a center of dilation at point F'.

B Rotate ΔEFG 180° clockwise about point E, and then dilate it by a scale factor of 2 with a center of dilation at point E'.

C Translate ΔEFG 1 unit up, then reflect it across the x-axis, and then dilate it by a scale factor ofwith a center of dilation at point E ".

D Reflect ΔEFG across the x -axis, then reflect it across the line $\mathrm{y} = \mathrm{x}$, and then dilate it by a scale factor of 2 with a center of dilation at point F ".

Q6: In the figure shown, $\overline{PS} \cong \overline{RQ}$. Which theorem can be used to prove $\triangle\ SQR \cong \triangle\ QSP$?



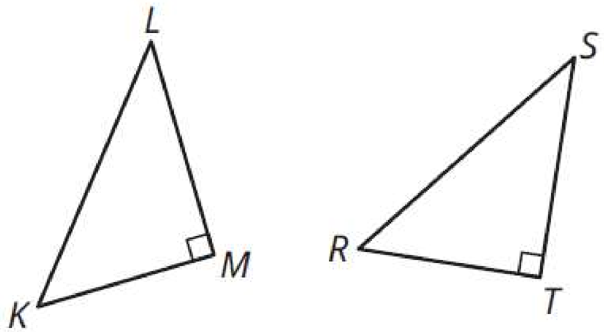
A SSS

B SAS

C AAS

D HL

Q7: Which of the following cannot be used to show that the right triangles shown are congruent?



A $\overline{KM} \cong \overline{RT}$ and $\overline{KL} \cong \overline{RS}$

B $\overline{LM} \cong \overline{ST}$ and $\overline{KL} \cong \overline{RS}$

C $\angle K \cong \angle R$ and $\angle L \cong \angle S$

D $\overline{KM} \cong \overline{RT}$ and $\angle K \cong \angle R$

Q8: In triangle CVR, the midpoint of $\overline{CR}$ is S and the midpoint of $\overline{CV}$ is T. Which of the following statements is true?

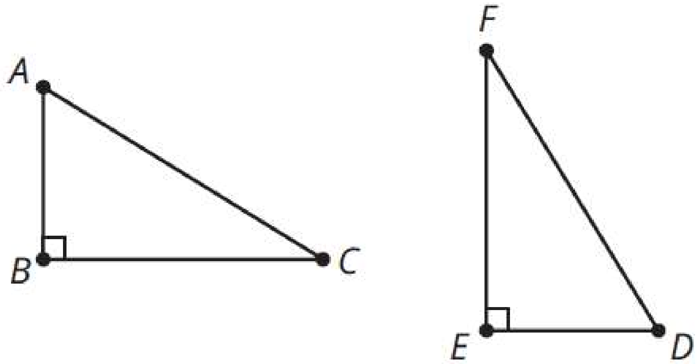
A $\overline{VR}$ is parallel to $\overline{ST}$.

B Triangle CST is equilateral.

C $\overline{CR}$ and $\overline{CV}$ are perpendicular to $\overline{ST}$.

D $\overline{ST}$ is twice as long as $\overline{VR}$.

Q9: Which can be used to show that $\triangle ABC \cong \triangle DEF$? Select all that apply.



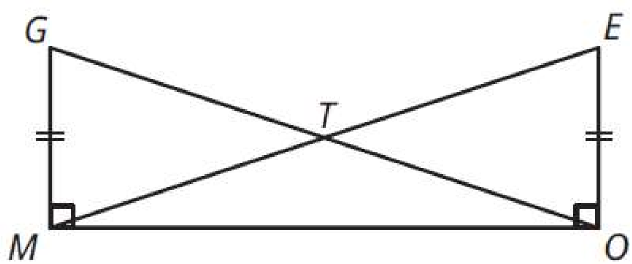
A $\overline{AC} \cong \overline{DF}$

B $\angle A \cong \angle F$

C $\angle C \cong \angle F$

D $\overline{CB} \cong \overline{FE}$

Q10: In the figure shown, $\overline{GM} \perp \overline{MO}$ and $\overline{EO} \perp \overline{MO}$. Which theorem can be used to prove $\triangle GMO \cong \triangle EOM$?



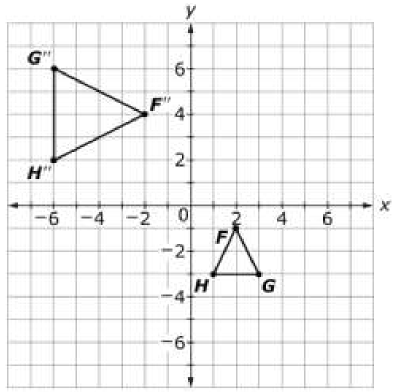
A LL

B LA

C HL

D HA

Q11: The coordinates plane shows ΔFGH and $\Delta F''G''H''$.



Which sequence of transformations can be used to show that $\Delta FGH \sim \Delta F''G''H''$?

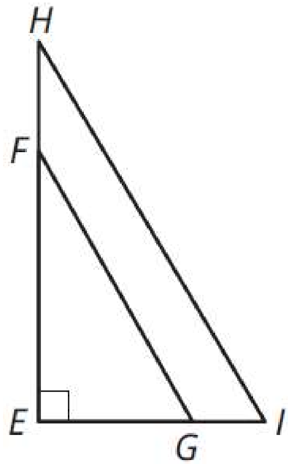
A a dilation about the origin with a scale factor of 2, followed by a 180° clockwise rotation about the origin

B a dilation about the origin with a scale factor of 2, followed by a reflection over the line $y = x$

C a translation 5 units up and 4 units left, followed by a dilation with a scale factor of $\frac{1}{2}$ about point F''

D a 180° clockwise rotation about the origin, followed by a dilation with a scale factor of $\frac{1}{2}$ about point F''

Q12: Which reason completes the two-column proof?



Given: $\overline{FG} \parallel \overline{HI}$
Prove: $\triangle EFG \sim \triangle EHI$

Statement	Reason
1. $\overline{FG} \parallel \overline{HI}$	1. Given
2. $\angle E \cong \angle E$	2. Reflexive Property
3. $\angle G \cong \angle I$	3. Corresponding angles are congruent when a transversal cuts pairs of parallel lines.
4. $\triangle EFG \sim \triangle EHI$	4.

A) Angle Bisector Theorem

B) Alternate Interior Angle Theorem

C) Triangle Sum Theorem

D) Angle-Angle Similarity Theorem

Q13: Given $\triangle ABC$, Kylie constructs $\angle D$ of a second triangle such that $\angle D \cong \angle A$. What one construction can Kylie make so that $\triangle DEF \sim \triangle ABC$? Select all that apply.

A) Construct $\angle B$ congruent to $\angle E$.

B) Construct $\overline{AB}$ proportional to $\overline{DE}$.

C) Construct $\angle C$ congruent to $\angle F$.

D) Duplicate $\overline{BC}$ as $\overline{EF}$.

Q14: What is the angle measure of each interior angle of a regular polygon with 42 sides?

A 8.57°

B 9.00°

C 167.14°

D 171.43°

Q15: For which polygon is the sum of the exterior angles equal to 360°? Select all that apply.

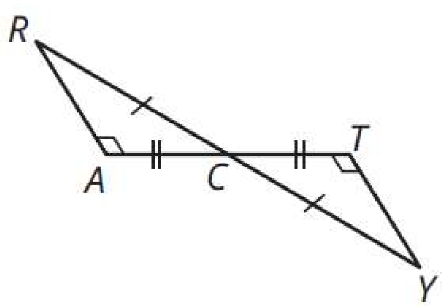
A triangle

B quadrilateral

C pentagon

D hexagon

Q16: Using the diagram shown, choose the correct conclusion.



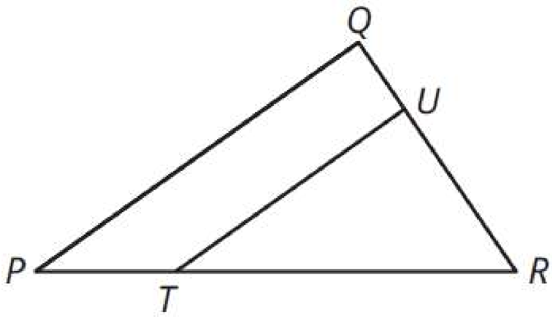
A The triangles are congruent by HL.

B The triangles are congruent by LA.

C The triangles are congruent by HA.

D All of the above

Q17: If $\overline{UT}||\overline{QP}$, which sequence of transformations describes the mapping of $\triangle\ TRU$ to $\triangle\ PRQ$? Select all that apply.



A Dilate $\triangle\ TRU$ using point R as the center of dilation.

B Dilate $\overline{TR}$ by the factor $\frac{PR}{TR}$ and $\overline{UR}$ by the factor $\frac{QR}{UR}$.

C Translate $\triangle\ TRU$ to move $\overline{TU}$ to $\overline{PQ}$.

D Translate $\triangle\ TRU$ to move $\angle TUR$ to $\angle PQR$.

Q18: Which of the following are needed to show that $\triangle\ ABC$ and $\triangle\ XYZ$, with right angles at $\angle C$ and $\angle Z$, are congruent by the Congruence Theorem? Select all that apply.

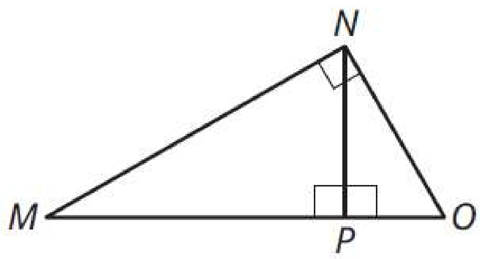
A $\overline{AB} \cong \overline{XY}$

B $\angle B \cong \angle Y$

C $\angle A \cong \angle X$

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

Q19: Altitude $\overline{NP}$ is drawn in triangle MNO. Which of the following can prove that NP is the geometric mean between MP and PO?



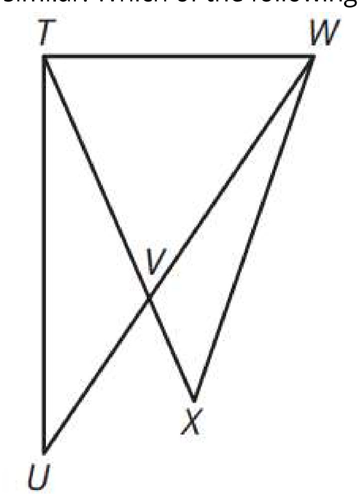
A) Right angles MPN, NPO, and ONM are congruent. Triangles NMO and NMP share $\angle NMP$, and triangles NMO and NOP share $\angle NOP$. So, triangles NMO, NMP, and NOP are similar by the AA Similarity Theorem So, $\frac{MP}{NP} = \frac{NP}{OP}$.

B) Since right angles are congruent, $\angle MPN, \angle NPO$, and $\angle ONM$ are congruent. Segment NP bisects angle $\angle MNO$, so $\angle MNO$ is congruent to $\angle ONP$. So, triangles NPM and ONP are similar, and $\frac{MP}{NP} = \frac{NP}{OP}$.

C) Segment NP bisects angle $\angle MNO$, so $\angle MNP = \frac{1}{2}\angle MNO$ and $\angle ONP = \frac{1}{2}\angle ONM$. By substitution, $\frac{MP}{NP} = \frac{NP}{OP}$.

D) By the Alternate Interior Angle theorem, $\angle MNP = \frac{1}{2}\angle NPO$ and $\angle ONP = \frac{1}{2}\angle NPM$. By substitution, $\frac{MP}{NP} = \frac{NP}{OP}$.

Q20: In triangles TUW and WXT, $\angle U$ and $\angle X$ are congruent. Andre wants to prove that these triangles are similar. Which of the following is a counterexample to show that triangles TUW and WXT are NOT similar?



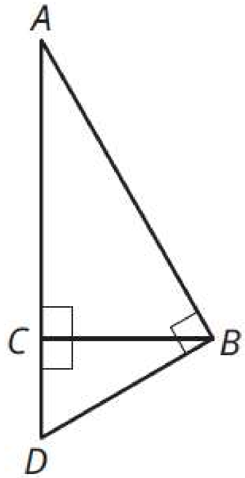
A) $\angle U \cong \angle X$, but $\angle UTW$ is not congruent to $\angle XWT$.

B) $\angle U \cong \angle X$, but $\angle UWT \cong \angle XTW$ and $\angle UTW \cong \angle XWT$.

C) $\angle U \cong \angle X$, but $\angle UWT \cong \angle UTW$ and $\angle XTW \cong \angle XWT$.

D) $\angle UWT \cong \angle UTW, \angle XTW \cong \angle XWT$, but $\angle U$ is not congruent to $\angle X$.

Q21: Triangles ABC, ABD, and BCD are similar right triangles. Yoshi writes that $\frac{AD}{BD} = \frac{BD}{CD}$ and $\frac{AD}{AB} = \frac{AB}{AC}$. What additional statement can Yoshi use to complete a proof that $BD^2 + AB^2 = AD^2$?



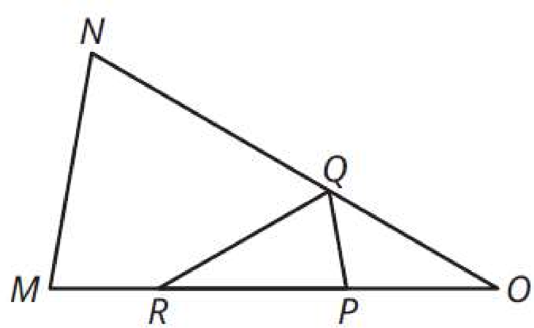
A $AB + BD = AC + CB + CD$

B $AD = \frac{AC}{CD}$

C $\frac{AB}{BD} = \frac{AC}{CD}$

D $AD = AC + CD$

Q22: If triangles MNO and PQR are similar, which of the following must be true? Select all that apply.



A $\frac{NM}{QP} = \frac{QR}{NO} = \frac{MO}{PR} = 1$

B $\angle N \cong \angle QRP, \angle M \cong \angle QPR, \angle O \cong \angle PQR$

C $\angle N \cong \angle PQR, \angle M \cong \angle QPR, \angle O \cong \angle QRP$

D $\frac{OM}{RP} = \frac{MN}{PQ} = \frac{ON}{RQ}$
