Unit 6 Study Guide

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| 1A. Triangle *DEF* is similar to triangle *LMN*.a. Identify and write the corresponding sides and angles of the two triangles. | 1B. Triangle *HJL* is similar to triangle *RST*.a. Identify and write the corresponding sides and angles of the two triangles. | 1C. Triangle *NPQ* is similar to triangle *VXY*.a. Identify and write the corresponding sides and angles of the two triangles. |
| 2A. Hank stands in the shadow of a flagpole. His shadow and the flagpole’s shadow end in the same spot. If Hank is 6 feet tall and the flagpole’s shadow is 24 feet long, how tall is the flagpole? | 2B. Nora looks from a height of 30 yards at the top of her apartment building. If the flagpole is 35 yards from the apartment building, how tall is the flagpole?  | 2C. Alfred’s little brother stands in the shadow of a flagpole. His shadow and the flagpole’s shadow end in the same spot. If Alfred’s brother is 3.5 feet tall and the flagpole’s shadow is 18 feet long, how tall is the flagpole? |
| 3A. Triangles *LMN* and *QMP* share angle *M* and $\overbar{QM} and \overbar{MP}$.a. Show your work and determine if triangle *LMN* is similar to *QMP*. | 3B. Triangles *GKM* and *HKL* share angle *K* and $\overbar{LK} and \overbar{HK}$.a. Show your work and determine if triangle *GKM* is similar to *HKL*. | 3C. Triangles *DEF* and *CHG* share $\overbar{GC}$.a. Show your work and determine if triangle *DEF* is similar to *CHG*. |
| 4A. Triangle *A’B’C*’ is a dilation of triangle *ABC* with the center of dilation at the origin.a. What is the scale factor? | 4B. Triangle *A’B’C*’ is a dilation of triangle *ABC* with the center of dilation at the origin.a. What is the scale factor? | 4C. Triangle *A’B’C*’ is a dilation of triangle *ABC* with the center of dilation at the origin.a. What is the scale factor? |
| 5A. In the figure shown, $\overbar{AD}≅\overbar{CB} $& $∠BCA≅∠DAC$. Which theorem can be used to prove $△ABC≅△CDA$? | 5B. In the figure shown, $\overbar{ED}≅\overbar{GH}$. Which theorem can be used to prove $△DEF≅△HGF$? | 5C. In the figure shown, $\overbar{LM}≅\overbar{NM}$. Which theorem can be used to prove $△LMP≅△NMP$? |
| 6A. Write the theorems or postulates that show the pair of triangles are congruent. | 6B. Write the theorems or postulates that show the pair of triangles are congruent. | 6C. Write the theorems or postulates that show the pair of triangles are congruent. |
| 7A. Lizbeth holds a 3 foot long fishing pole. The fishing line extends 8 feet to the water’s surface and then another 10.4 feet to a hook. How far is the fish from the hook? | 7B. Corey holds a 7 foot long fishing pole. The fishing line extends 4 feet to the water’s surface and then another 8.4 feet to a hook. How far is the fish from the hook? | 7C. Becca holds a 3 foot long fishing pole. The fishing line extends 2 feet to the water’s surface and then another 10.6 feet to a hook. How far is the fish from the hook? |
| 8A. Given the two triangles shown.Determine the transformation used to create triangle *LMN.* | 8B. Given the two triangles shown.Determine the transformation used to create triangle *LMN.* | 8C. Given the two triangles shown.Determine the transformation used to create triangle *LMN.* |
| 9A. Use a two-column proof.Given: $AB=5, CB=5, \& \overbar{AE}∥\overbar{CD}$Prove: $\overbar{AE}≅\overbar{CD}$

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| Statements | Reasons |
| 1. $AB=5, $$$CB=5$$ | 1. Given |
| 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2. Given |
| 3. $∠A≅∠C$ | 3. Alt. Int. Angles Thm. |
| 4. $$∠ABE≅∠CBD$$ | 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. $AB=CB$ | 5. Substitution |
| 6. $\overbar{AB}≅\overbar{CB}$ | 6. Def. $≅$ |
| 7.$$△ABE≅△CBD$$ | 7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. $\overbar{AE}≅\overbar{CD}$ | 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

 | 9B. Use a two-column proof.Given: $\overbar{KF}≅\overbar{GH}$Prove: $∠FGK≅∠HKG$

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| Statements | Reasons |
| 1. $∠F \& ∠H$ are right angles | 1. Given |
| 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2. Given |
| 3.$ \overbar{GK}≅\overbar{KG}$ | 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4.$$△KGF≅△GKH$$ | 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. $$∠FGK≅∠HKG$$ | 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

 | 9C. Use a two-column proof.Given: $∠LMN≅∠PMN$ and $∠MNL≅∠MNP$Prove: $\overbar{LN}≅\overbar{PN}$

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| Statements | Reasons |
| 1. $$∠MNL≅∠MNP$$ | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2. Given |
| 3.$ \overbar{MN}≅\overbar{MN}$ | 3. Reflexive Prop. of $≅$ |
| 4.$$△KGF≅△GKH$$ | 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. $\overbar{LN}≅\overbar{PN}$ | 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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