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| **OUR TURN** | | | | | **YOUR TURN** | | | | | |
| **1.** | | **Use this triangle to complete the statements and justifications below.** | |  | **1.** | | **Use this triangle to complete the statements and justifications below.** | |  | |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | TL is parallel to BR. | Given | | 2 | ∠ATL ≅ ∠\_\_\_\_\_\_  ∠ALT ≅ ∠\_\_\_\_\_\_ |  | | 3 | ΔATL ~ Δ\_\_\_\_\_\_\_ |  | | 4 |  |  | | 5 |  | Segment Addition Postulate | | 6 |  | Subtraction Property of Equality | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | GK is parallel to HJ. | Given | | 2 | ∠WSN ≅ ∠\_\_\_\_\_\_  ∠WNS ≅ ∠\_\_\_\_\_\_ |  | | 3 | ΔWSN ~ Δ\_\_\_\_\_\_\_ |  | | 4 |  |  | | 5 |  | Segment Addition Postulate | | 6 |  | Subtraction Property of Equality | | | | | | |
| **2.** | | **Use this triangle to complete the statements and justifications below.** | |  | **2.** | | **Use this triangle to complete the statements and justifications below.** | |  | |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | PH ≅ SL | Given | | 2 | ∠PHL ≅ ∠SLH | Given | | 3 | HL ≅ LH | ? | | 4 | ΔPHL ≅ ΔSLH | ? | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | ∠N ≅ ∠T | Given | | 2 | ∠NMY ≅ ∠TYM | Given | | 3 | MY ≅ YM | ? | | 4 | ΔNYM ≅ ΔTMY | ? | | | | | | |
| **3.** | | **Use these lines to complete the statements and justifications below.** | |  | **3.** | **Use these lines to complete the statements and justifications below.** | | |  | |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | Line p intersects line q. | Given | | 2 | ∠1 and ∠3 are a linear pair.  ∠2 and ∠3 are a linear pair. | Definition of Linear Pair | | 3 |  |  | | 4 |  |  | | 5 |  | Subtraction Property | | 6 |  | Definition of  Congruent Angles | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | Line j intersects line k. | Given | | 2 | ∠5 and ∠6 are a linear pair.  ∠6 and ∠7 are a linear pair. | Definition of Linear Pair | | 3 |  |  | | 4 |  |  | | 5 |  | Subtraction Property | | 6 |  | Definition of  Congruent Angles | | | | | | |
| **OUR TURN** | | | | | **YOUR TURN** | | | | | |
| **4.** | **Use this line and triangle to complete the statements and justifications below.** | |  | | **4.** | | **Use this line and triangle to complete the statements and justifications below.** |  | | |
| LN and are parallel, so LT is a transversal.  The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ formed by the transversal are congruent.  So, m∠L = m∠\_\_\_\_\_\_.  Similarly, TN is a transversal, so m∠N = m∠\_\_\_\_\_\_.  The sum of the angle measures that make a straight line is \_\_\_\_\_°.  So, m∠\_\_\_\_\_ + m∠\_\_\_\_\_ + m∠\_\_\_\_\_ = 180°.  Now, substitute m∠L for m∠\_\_\_\_\_\_ and m∠N for m∠\_\_\_\_\_\_ to get m∠\_\_\_ + m∠LTN + m∠\_\_\_ = 180°. | | | | | KG and are parallel, so KN is a transversal.  The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ formed by the transversal are congruent.  So, m∠K = m∠\_\_\_\_\_\_.  Similarly, NG is a transversal, so m∠G = m∠\_\_\_\_\_\_.  The sum of the angle measures that make a straight line is \_\_\_\_\_°.  So, m∠\_\_\_\_\_ + m∠\_\_\_\_\_ + m∠\_\_\_\_\_ = 180°.  Now, substitute m∠K for m∠\_\_\_\_\_\_ and m∠G for m∠\_\_\_\_\_\_ to get m∠\_\_\_ + m∠KNG + m∠\_\_\_ = 180°. | | | | | |
| **5.** | | **Use this parallelogram to complete the statements and justifications below.** | |  | **5.** | | **Use this parallelogram to complete the statements and justifications below.** | |  | |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | QUDL is a parallelogram. | Given | | 2 | UL is a diagonal. | Given | | 3 | QU ǁ LD, QL ǁ UD |  | | 4 | ∠QUL ≅ ∠\_\_\_\_\_\_  ∠QLU ≅ ∠\_\_\_\_\_\_ |  | | 5 | UL ≅ \_\_\_\_\_\_ |  | | 6 | ΔQUL ≅ Δ\_\_\_\_\_\_ |  | | 7 | QU ≅ DL |  | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | PRGM is a parallelogram. | Given | | 2 | PG is a diagonal. | Given | | 3 | PR ǁ MG, PM ǁ RG |  | | 4 | ∠RPG ≅ ∠\_\_\_\_\_\_  ∠RGP ≅ ∠\_\_\_\_\_\_ |  | | 5 | PG ≅ \_\_\_\_\_\_ |  | | 6 | ΔPRG ≅ Δ\_\_\_\_\_\_ |  | | 7 | PM ≅ GR |  | | | | | | |
| **6.** | | **Use this triangle and perpendicular bisector to complete the statements and justifications below.** | |  | **6.** | | **Use this triangle and perpendicular bisector to complete the statements and justifications below.** | | |  |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | DL is the perpendicular bisector of AS. | Given | | 2 | AL ≅ \_\_\_\_ |  | | 3 | DL ≅ \_\_\_\_ |  | | 4 | ∠ALD and ∠\_\_\_\_\_\_ are right angles. |  | | 5 | ∠ALD ≅ ∠\_\_\_\_\_\_ |  | | 6 | ΔALD ≅ Δ\_\_\_\_\_\_ |  | | 7 | AD ≅ SD |  | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | CB is the perpendicular bisector of WY. | Given | | 2 | WB ≅ \_\_\_\_ |  | | 3 | CB ≅ \_\_\_\_ |  | | 4 | ∠WBC and ∠\_\_\_\_\_\_ are right angles. |  | | 5 | ∠WBC ≅ ∠\_\_\_\_\_\_ |  | | 6 | ΔWBC ≅ Δ\_\_\_\_\_\_ |  | | 7 | WC ≅ YC |  | | | | | | |

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| **OUR TURN** | | | | | **YOUR TURN** | | | | | |
| **7.** | **Use this triangle to complete the statements and justifications below. You will need to construct an auxiliary line for Step 2.** | | |  | **7.** | | **Use this triangle to complete the statements and justifications below.**  **You will need to construct an auxiliary line for Step 2.** | | |  |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | YN ≅ \_\_\_ | Given | | 2 | Construct NW, the angle bisector for ∠\_\_\_, where W is on \_\_\_\_. | Every angle has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | 3 | ∠YNW ≅ ∠\_\_\_\_\_\_ |  | | 4 | NW ≅ \_\_\_\_\_ |  | | 5 | ΔYNW ≅ Δ\_\_\_\_\_\_ |  | | 6 | ∠Y ≅ ∠\_\_\_ |  | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | NG ≅ \_\_\_ | Given | | 2 | Construct GS, the angle bisector for ∠\_\_\_, where S is on \_\_\_\_. | Every angle has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | 3 | ∠NGS ≅ ∠\_\_\_\_\_\_ |  | | 4 | GS ≅ \_\_\_\_\_ |  | | 5 | ΔNGS ≅ Δ\_\_\_\_\_\_ |  | | 6 | ∠N ≅ ∠\_\_\_ |  | | | | | | |
| **8.** | **Use this parallelogram to complete the statements and justifications below.** | |  | | **8.** | **Use this parallelogram to complete the statements and justifications below.** | | |  | |
| |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | PARL is a parallelogram. | Given | | 2 | PR is a diagonal. | Given | | 3 | PA ǁ LR, PL ǁ AR |  | | 4 | ∠LRP ≅ ∠\_\_\_\_\_\_  ∠LPR ≅ ∠\_\_\_\_\_\_ |  | | 5 | PR ≅ \_\_\_\_\_\_ |  | | 6 | ΔLRP ≅ Δ\_\_\_\_\_\_ |  | | 7 | PL ≅ AR |  | | | | | | |  |  |  | | --- | --- | --- | | **Step** | **Statement** | **Justification** | | 1 | QUAD is a parallelogram. | Given | | 2 | DU is a diagonal. | Given | | 3 | QU ǁ DA, QD ǁ UA |  | | 4 | ∠QUD ≅ ∠\_\_\_\_\_\_  ∠QDU ≅ ∠\_\_\_\_\_\_ |  | | 5 | DU ≅ \_\_\_\_\_\_ |  | | 6 | ΔQUD ≅ Δ\_\_\_\_\_\_ |  | | 7 | QU ≅ DA |  | | | | | | |
| **9.** | **In the diagram, line *t* is the transversal of parallel lines *p* and *q*. How can the relationship between ∠2 and ∠3 be written in three different ways?** |  | | | **9.** | **In the diagram, line *t* is the transversal of parallel lines *p* and *q*. How can the relationship between ∠6 and ∠7 be written in three different ways?** | |  | | |
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| **OUR TURN** | | **YOUR TURN** | |
| **10.** | **Given two sets of parallel lines in the diagram, describe the relationships between ∠4 and ∠10 using ∠14.** | **10.** | **Given two sets of parallel lines in the diagram, describe the relationships between ∠6 and ∠16 using ∠11.** |

**Response Problems**

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| **OUR TURN** | | | **YOUR TURN** | | |
| **11.** | **In ΔABC, segments LM, MN and NL are midsegments. If AM = 33, ML = 64 and CB = 108, then explain how to find the perimeter of ΔLMN.** |  | **11.** | **In ΔABC, segments LM, MN and NL are midsegments. If NM = 37, NB = 36 and CA = 80, then explain how to find the perimeter of ΔLMN.** |  |
| **12.** | **Compare and contrast how to find the measure of ∠A in each triangle.** | | **12.** | **Compare and contrast how to find the measure of ∠A in each triangle.** | |
| **13.** | **Explain how to find the measure of ∠KRN in parallelogram NYRK.** | | **13.** | **Explain how to find the measure of ∠NMQ in parallelogram LMNQ.** | |