**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Date\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_\_**

**1-9: Using the theorems learned in class, find the measure of each numbered angle.**

**1.** *m*∠2 = 57 **2.** *m*∠5 = 22 **3.** *m*∠1 = 38



 *m*∠1 = \_\_\_\_\_\_\_ *m*∠6 = \_\_\_\_\_\_\_ *m*∠2 = \_\_\_\_\_\_\_

**4.** *m*∠13 = 4*x* + 11, **5.** ∠9 and ∠10 are complementary. **6.** *m*∠2 = 4*x* – 26,

 *m*∠14 = 3*x* + 1 ∠7 ≅ ∠9, *m*∠8 = 41 *m*∠3 = 3*x* + 4





*Algebra: Algebra: Algebra:*

 *x* = \_\_\_\_\_\_\_ *m*∠7 = \_\_\_\_\_\_\_ *x* = \_\_\_\_\_\_\_

*m*∠13 = \_\_\_\_\_\_\_ *m*∠9 = \_\_\_\_\_\_\_ *m*∠2 = \_\_\_\_\_\_\_

*m*∠14 = \_\_\_\_\_\_\_ *m*∠10= \_\_\_\_\_\_\_ *m*∠3 = \_\_\_\_\_\_\_

**7.** *m*∠1 = *x* + 10 **8.** *m*∠4 = 2*x* – 5 **9.** *m*∠6 = 7*x* – 24

 *m*∠2 = 3*x* + 18 *m*∠5 = 4*x* – 13 *m*∠7 = 5*x* + 14



*Algebra: Algebra: Algebra:*

 *x* = \_\_\_\_\_\_\_ *x* = \_\_\_\_\_\_\_ *x* = \_\_\_\_\_\_\_

*m*∠1 = \_\_\_\_\_\_\_ *m*∠4 = \_\_\_\_\_\_\_ *m*∠6 = \_\_\_\_\_\_\_

*m*∠2 = \_\_\_\_\_\_\_ *m*∠5= \_\_\_\_\_\_\_ *m*∠7 = \_\_\_\_\_\_\_

**10-11: Refer to the figure to answer the following question.**



**Given: Barton Road and Olive Tree Lane form a right angle at their**

 **intersection. Tryon Street forms a 57° angle with Olive Tree Lane.**

**10.** What is the measure of the acute angle Tryon Street forms with Barton Road?

**11.** What theorem, definition, or postulate helped you to answer question #10?

**12-13: Complete the proofs with the correct statements and/or reasons.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **12.**GEO_CH02-50_01.jpg**Given:** $\overbar{AB}$⊥ $\overbar{BC}$; ∠1 and ∠3 are complementary.  **Prove:** ∠2 ≅ ∠3

|  |  |
| --- | --- |
| **Statements** | **Reasons** |
| **a.** $\overbar{AB}$⊥$\overbar{BC}$ | **a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **b.** Definition of ⊥ |
| **c.** *m*∠ *ABC* = 90 | **c.** Def. of right angle |
| **d.** *m*∠ *ABC* =*m*∠1 + *m*∠2 | **d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **e.** 90 = *m*∠1 + *m*∠2 | **e.** Substitution |
| **f.** ∠1 and ∠2 are complementary. | **f. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **g.** Given |
| **h.** ∠2 ≅ ∠3 | **h. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

 | **13.**GEO_CH02-50_02.jpg**Given:** ∠1 and ∠2 form a linear pair. *m*∠1 + *m*∠3 = 180 **Prove:** ∠2 ≅ ∠3

|  |  |
| --- | --- |
| **Statements** | **Reasons** |
| **a.** ∠1 and ∠2 form  a linear pair. *m*∠1 + *m*∠3 = 180 | **a.** Given |
| **b.** *m*∠1 + *m*∠2 = 180 | **b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **c.** *m*∠1 + *m*∠3 = *m*∠1 + *m*∠2**d.** **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****e.** *m*∠3 = *m*∠2**f.** *m*∠2 = *m*∠3**g.** ∠2 ≅ ∠3 | **c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****d.** Subtraction P.O.E.**e. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****f. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

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