CCGPS Geometry Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 1B: Δ Congruence and Parallelograms Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_

**Answer each question below. You must *show your work* if appropriate for full credit.**

**Define each:**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | Congruent figures | ­ |  |
| 2. | Legs |  |  |
| 3. | Hypotenuse |  |  |
| 4. | Included angle |  |  |
| 5. | Included side |  |  |
|  |  |  |  |

**State the congruence postulate or theorem you would use to prove the triangles congruent (SSS, SAS, ASA, AAS, HL). If you cannot prove it, write NONE.**

|  |  |  |
| --- | --- | --- |
| 6.Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ | 7. Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ | 8.Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ | 10.Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ | 11.Answer\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**State the third congruence that is needed to prove that using the**

 **following postulate or theorem**:

|  |  |
| --- | --- |
|  | 12. Given: , , and Use the ASA Congruence Postulate |
|  | ABCXZY13. Given: , , and Use the AAS Congruence Theorem |
|  | ACBXYZ14. Given: , AB ≅ XY, and Use The SSS Congruence PostulateXZY |

A

B

C

**Multiple Choice. Choose the BEST answer. Show your work where needed.**

|  |  |
| --- | --- |
|  | 15. If ΔABC ≅ ΔRST then \_\_\_\_\_. |

|  |  |
| --- | --- |
| **17.** | Complete the congruence statement given the information from the figure: \_\_\_ by \_\_\_\_. |
|  |
|  |  |  | HJGI |
|  |  |  |
|  |  |  |
|  |  |  |

18. Opposite angles in a parallelogram are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

19. Determine if the following are true or false for a parallelogram.

 a. \_\_\_\_opposite sides are congruent

 b. \_\_\_\_opposite angles are congruent

 c. \_\_\_\_diagonals bisect each other

 d. \_\_\_\_diagonals are perpendicular to each other

 e. \_\_\_\_consecutive angles are congruent.

**Use the diagram at right for #s 20 - 23.**

20. Find *m*HJF \_\_\_\_\_\_\_\_\_\_\_\_

97o

8

3

15

18

21. Find GK \_\_\_\_\_\_\_\_\_\_\_\_

22. Find FJ \_\_\_\_\_\_\_\_\_\_\_\_

23. Find *m*GFJ \_\_\_\_\_\_\_\_\_\_\_\_

28. Find x and y

 in the parallelogram.

 x + 1 5y + 9 *x* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*y* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 6y – 5 3x – 9

29. Find *x* in the parallelogram.

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

 2*x* + 35

30.. Find *a* in the parallelogram.

 *a* + 2 2*a* + 7

31. KLMN is a rectangle.

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

L

K

N

 (3x – 30)o

M

32. What has to be true about the diagonals of a restangle?

33. Find *d* in the parallelogram.

 9*x* + 6 12*x* – 24

34. Use the diagram at right to find the following lengths. B, D, & F are midpoints.

AB =

CE =

BG =

AG =

AD =

Perimeter of ΔACE =

Point G is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Segment BE is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_