Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Teacher:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**GEOMETRY COURSE**

**Pre-Test | Post-Test**

**Answers:**

**1.** $\sqrt{10}$

**2. (1,1)**

**3.** An angle bisector is a line segment that divides the angle into two equal parts.

**4. Perpendicular** (Since the product of the slopes of two lines is -1 i.e. 5 x (-1/5) = $-$1 )

**5. Neither** (Since the slopes of the two lines are neither equal nor their product is equal to $-$1)

**6. Point slope form:** y + 2= 7(x $–$ 5) ; **Slope-intercept form:** y = 7x $–$ 37

**7. Point slope form:** y - 6= $\frac{1}{3}$(x $+$ 1) ; **Slope-intercept form: 3**y = x $+$ 19

**8. 22.5°, 67.5°**

**9. 36°, 144°**

**10. <1** and **<6, <2** and **<5, <3** and **<8, <4** and **<7, <9** and **<11, <10** and **<12**

**11.** Transitive property of line segments

**12.** Equality property of angles

**13.** Since <1 and <2 are supplementary angles, and <3 and <4 are supplementary angles, and <2 and <4 are congruent, so <1 must be equal to <3 so that the sum of angles remains 180°.

**14.** <1 $≅$ <5, <3 $≅$ <7, <4 $≅$ <8, <2 $≅$ <6

**15.**

|  |  |
| --- | --- |
| **Statements** | **Reasons** |
| **1. <5** $≅$ **<7** | **1.** Corresponding angles are congruent |
| **2. <4** $≅$ **<7** | **2.**  Vertical angles are congruent |
| **3. <4** $≅$ **<5** | **3.** Transitive property of angles |

 **16. Perimeter = 36.44**

 ****

**17. Perimeter = 16.8**

****

**18. Area = 22**

****

**19.** 29.31cm3

**20.** 301.44mm3

**21.** b < d < a < e < c

**22.** 60°

**23.** m<H **<** m<F **<** m<G

**24.** No, because no combination of lengths can satisfy the Pythagorean law of right-angled triangles.

**25.** $7\sqrt{2}$

**26.** a = 10m, b = $10\sqrt{3}$

**27.** Triangles are similar, since the ratio of the three corresponding sides is the same i.e. ¾

**28.** The ratio of line segment EF to line segment FG is equal to the ratio of line segment EI to line segment IH i.e. 5/4.

 **Theorem used:** If a line is parallel to one side of a triangle and intersects the other two sides of the triangle, the line divides these two sides proportionally.

 **29.** Using SAS (side angle side) theorem, both triangles have one same angle i.e. 90 degrees and the ratio of sides including this angle is same i.e. 2.

**30.** 23.6 ft.

**31.** R’(-5,6), S’(-3,10), T’(-2,2)

**32.** D’(7,1), E’(7,8), F’(-1,8), G(-1,1)

**33.** 12/13

**34. a)** 3/5
 **b)** 4/5
 **c)** 3/4

**35.** 1980°

**36.** 5

**37.** 60°

**38.** 75°

**39.** 75°

**40.** 25°