GEOMETRY BASIC SEMESTER 1 FINAL EXAM REVIEW #3

1. If the pattern indicated below is continued, what would be the total number of cubes in the 6th stage of the pattern?



[A] 6 [B] 21 [C] 15 [D] 36

2. Name three points that are collinear. Assume  is not a straight angle.



[A] points *T*, *Q*,and *R*

[B] points *T*, *Q*,and *S*

[C] points *S*, *Q*,and *R*

[D] points *T*, *S*,and *R*

3. The notation for the length of the segment between *P* and *Q* is \_\_\_\_\_\_\_.

[A]  [B] 

[C]  [D] *PQ*

4. *R*, *S*, and *T* are collinear. *S* is between *R* and *T. RS* = 2*w* + 1, *ST* = *w* – 1, and *RT* = 18. Use the Segment Addition Postulate to solve for *w*. Then determine the length of 

[A] 16 [B] 13

[C] 6 [D] 5

5. If *RS* = 34.1 and *QS* = 68, find *QR*.



[A] 33.9 [B] 23.9

[C] 102.1 [D] 34.1

6. *C* is in the interior of \_\_\_\_\_\_\_\_.



[A]  [B] 

[C]  [D] 

8. If  and , then what is the measure of ?



[A] 43° [B] 46°

[C] 44° [D] 51°

9. *m**NLM* = () and *m**KLM* = () and *m**NLK* = 63.

Find *m**NLM* and *m**KLM*.



[A] *m**NLM*  = 21 and  *m**KLM*  = 42

[B] *m**NLM*  = 48 and  *m**KLM*  = 15

[C] *m**NLM*  = 42 and  *m**KLM*  = 21

[D] *m**NLM*  = 15 and  *m**KLM*  = 48

10. If angle *ROS* is obtuse and angle *TOR* is straight, then angle *TOS* is what kind of angle?



[A] obtuse [B] straight

[C] right [D] acute

11. *T* is the midpoint of . Which one of the following is not an appropriate statement?

[A] 

[B] 

[C] 

[D] 

12. If an obtuse angle is bisected, the resulting angles are \_\_\_\_\_\_\_\_\_.

[A] never congruent

[B] always acute

[C] always obtuse

[D] right angles

13. In the figure shown, **. Which of the following statements is false?



[A] 

[B] 

[C] 

[D] 

14. Solve for *x*:



[A] 5 [B] 2

[C] 7 [D] 4

15. Rewrite the statement in if-then form.

All right triangles have an angle with a measure of 90 degrees.

[A] A figure has an angle with a measure of 90 degrees if and only if it is a right triangle.

[B] If a figure has an angle with a measure of 90 degrees, then it is a right triangle.

[C] A figure is a right triangle if and only if it has an angle with a measure of 90 degrees.

[D] If a figure is a right triangle, then it has an angle with a measure of 90 degrees.

16. “If , I will succeed.” In this conditional statement, the underlined portion is \_\_\_\_\_\_\_\_.

[A] the conclusion

[B] the converse

[C] the hypothesis

[D] the argument

17. Which of the following is an example of the Reflexive Property?

[A] If  and , then .

[B] If , then  = .

[C] If , then .

[D] 

18. Identify the property of congruence.

.

[A] Transitive Property of Congruence

[B] Symmetric Property of Congruence

[C] Reflexive Property of Congruence

[D] Substitution Property

19.  are a linear pair. If , then find 

[A]  [B] 

[C]  [D] 

20. Two lines that are not coplanar and do not intersect are called \_\_\_\_\_\_\_\_\_\_\_\_\_.

[A] perpendicular [B] parallel

[C] skew lines [D] oblique

21. In the figure,  and  are \_\_\_\_\_\_\_\_\_.



[A] corresponding angles

[B] consecutive interior angles

[C] alternate interior angles

[D] alternate exterior angles

22. In the figure,  are \_\_\_\_\_\_\_\_\_\_.



[A] consecutive interior angles

[B] corresponding angles

[C] alternate exterior angles

[D] alternate interior angles

23. In the figure,  are \_\_\_\_\_\_\_\_\_\_\_\_\_.



[A] consecutive interior angles

[B] corresponding angles

[C] alternate interior angles

[D] alternate exterior angles

24. In the figure shown,  and *m* = . Which of the following statements is false?



[A] 

[B] 

[C]  and  are alternate exterior angles.

[D]  and  are corresponding angles.

25. Refer to the figure. Which theorem guarantees  and  are parallel?



[A] Alternate Interior Angles Converse

[B] Corresponding Angles Converse

[C] Consecutive Interior Angles Converse

[D] Alternate Exterior Angles Converse

26. Classify *MNO.*



[A] Equilateral [B] Isosceles

[C] Scalene [D] none of these

27. A triangle has angle measures of , , and . Choose the term that describes the triangle.

[A] Scalene [B] Obtuse

[C] Right [D] Acute

28. How many obtuse angles can an isosceles triangle have?

[A] 1 [B] 2

[C] 0 [D] 3

29. Find the value of *x*:



[A] 128° [B] 84°

[C] 32° [D] 148°

30. Find the value of *x*.



[A] 297 [B] 66

[C] 51 [D] 117

31. Find the value of *x*.



[A]  [B] 

[C]  [D] 

32. Find the measure of the interior angles to the nearest tenth. (Drawing is not to scale.)



[A] 36.2, 40.9, 102.9

[B] 39.3, 34.8, 105.9

[C] 35.3, 37.8, 106.9

[D] 36.8, 36.8, 106.4

33. Use the figure below to solve for *x*.



[A]  [B] 

[C]  [D] 

34. Refer to the figure below. \_\_\_\_\_\_.

[A]  [B] 

[C]  [D] 

35. Refer to the figure below. Which of the following statements is true?



[A] There are no congruent triangles.

[B] 

[C] 

[D] 

36. What must be true in order for  by the SAS Congruence Postulate?



[A]  [B] 

[C]  [D] 

37. Refer to the figure shown. Which of the following statements is true?



[A] 

[B] 

[C] 

[D] 

38. . Name the theorem or postulate that justifies the congruence.



[A] SAS [B] ASA

[C] AAS [D] HL

39. If  is the perpendicular bisector of , then *KGF*  \_\_\_\_\_\_.



[A] *KHF* [B] *KFH*

[C]  [D] *FKG*

40. In the figure (not drawn to scale),  bisects   and  Solve for *x* and find 



[A] 6, 138 [B] 3, 24

[C] 6, 111 [D] 3, 27

41. The medians of a triangle are concurrent. Their common point is the \_\_\_\_.

[A] orthocenter [B] circumcenter

[C] incenter [D] centroid

42. In a triangle, a segment connecting the midpoints of two sides of the triangle is called a \_\_\_\_\_.

[A] vertex [B] centroid

[C] midsegment [D] shortcut

43. Which side lengths allow you to construct a triangle?

[A]  [B] 

[C]  [D] 

44. Two sides of a triangle have sides 3 and 7. The length of the third side must be greater than \_\_\_\_\_ and less than \_\_\_\_.

[A] 3, 11 [B] 2, 8

[C] 4, 10 [D] 3, 7

45. Which of these lengths could be the sides of a triangle?

[A] 13 cm, 19 cm, 4 cm

[B] 19 cm, 9 cm, 11 cm

[C] 19 cm, 13 cm, 5 cm

[D] 9 cm, 19 cm, 10 cm

Reference: [1.1.1.2]

[1] [B]

Reference: [1.2.1.13]

[2] [A]

Reference: [1.3.1.23]

[3] [D]

Reference: [1.3.1.28]

[4] [B]

Reference: [1.3.1.25]

[5] [A]

Reference: [1.4.1.40]

[6] [C]

Reference: [1.4.1.41]

[7] [B]

Reference: [1.4.1.44]

[8] [B]

Reference: [1.4.1.46]

[9] [A]

Reference: [1.4.2.51]

[10] [D]

Reference: [1.5.1.55]

[11] [C]

Reference: [1.5.2.57]

[12] [B]

Reference: [1.6.1.62]

[13] [C]

Reference: [1.6.1.68]

[14] [D]

Reference: [2.1.1.3]

[15] [D]

Reference: [2.1.1.5]

[16] [C]

Reference: [2.4.1.37]

[17] [D]

Reference: [2.6.1.49]

[18] [C]

Reference: [2.6.2.59]

[19] [D]

Reference: [3.1.1.4]

[20] [C]

Reference: [3.1.2.8]

[21] [D]

Reference: [3.1.2.9]

[22] [A]

Reference: [3.1.2.10]

[23] [B]

Reference: [3.3.2.20]

[24] [C]

Reference: [3.4.1.25]

[25] [D]

Reference: [4.1.1.2]

[26] [C]

Reference: [4.1.1.6]

[27] [D]

Reference: [4.1.2.12]

[28] [A]

Reference: [4.1.2.15]

[29] [D]

Reference: [4.1.2.17]

[30] [C]

Reference: [4.1.2.18]

[31] [B]

Reference: [4.1.2.19]

[32] [D]

Reference: [4.1.2.25]

[33] [B]

Reference: [4.1.2.27]

[34] [A]

Reference: [4.3.1.49]

[35] [C]

Reference: [4.3.1.54]

[36] [A]

Reference: [4.3.1.55]

[37] [A]

Reference: [4.6.2.86]

[38] [D]

Reference: [5.2.1.7]

[39] [A]

Reference: [5.2.2.19]

[40] [A]

Reference: [5.3.2.33]

[41] [D]

Reference: [5.4.1.38]

[42] [C]

Reference: [5.5.2.57]

[43] [B]

Reference: [5.5.2.63]

[44] [C]

Reference: [5.5.2.64]

[45] [B]