Geometry Semester 1 Exam Review

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| 1. Two lines intersect as shown. What is the value of *x*? | 2. In this figure, *m*∠1=(15*x*−5)° and *m*∠2=(10*x*+35)°. What is *m*∠1? | | | | | 3. What is *m*∠TQM? |
| 4. In this figure, line *t* is a transversal of lines *m* and *n*. Which of the following statements determines that lines *m* and *n* are parallel?  A. ∠2≅∠7 B. ∠1≅∠4  C. ∠3 and ∠5 are complementary  D. ∠6and∠8are supplementary | | | | |  | |
| 5. For what value of *x* is *l*⫽*m* in this figure? | | | 6. If *a*⫽*b*, what is the value of *x*? | | | |
| 7. What value of *x* makes  Δ*DEF* ≅ Δ*JLK*? | | 8. List the sides of Δ*BCD* in order from shortest to longest. | | | |  |
| 9. Which point lies on the bisector of ∠*PQR*? | | 10. What is *m*∠TQM? | | | | 11. Which term best identifies? Why? |
| 12. Three survey markers are located on a map at points *H*, *I*, and *J*. A triangle is formed by connecting these markers by string so that *HI* =150 feet, *HJ* = 245 feet, and *IJ* = 365 feet. Which statement is true about the measures of the angles of Δ*HIJ*?  A. *m*∠*H* is the smallest B. *m*∠*H* is the largest  C. *m*∠*I* is the smallest D. *m*∠*I* is the largest | | | | | | |
| 13. Let p=Two angles are adjacent. Let q=They share a common side.  Write the conditional statement p→q. Now write the inverse, converse, and contrapositive. | | | | | | |
| 14. Provide a counterexample for the following statement: If an animal has four legs, then it is a dog. | | | | | | |
| 15. Identify the hypothesis and conclusion of the conditional: If a triangle is a right triangle, then its two acute angles are complementary.  What is the converse of the conditional statement? | | | | | | |
| 16. B is between A and C. If AB=3x+2, BC=5x-10, and AC=16, what is the value of x? | | | | | | |
| 17. What are the values of x, y, and z? | | |  | | | |
| 18. What is *m*∠ABC? | 19. What can you conclude about ? | | | | |  |
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| 20-22: By what method can the triangles be proven congruent?  Write a congruent statement for the triangles. | | | | | | |
| 20. | 21. | | | | | 22. |
| 23. Reorder the reasons of the following proof to match the correct statements. | | | |  | | |
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| 24. The vertex angle of an isosceles triangle is three times the measure of a base angle. What is the measure of the vertex angle? | | | | | | |
| 25. Two sides of a triangle are 4 cm and 9 cm. What are possible lengths for the third side? | | | | | | |
| 26. Can a triangle be formed with side lengths that are 4, 9, and 12? Explain. | | | | | | |
| 27. If the perimeter of isosceles triangle XYZ is 40 and XZ=16, what are the possible values for YZ? | | | | | | |
| 28. Give the diagram at the right, which of the following must be true?  I. e+f=b+c  II. f+c=a+d  III. e+a+c=f+b+d  A. I only B. I and III C. I and II D. I, II, and III | | | | |  | |
| 29. ΔABC is an acute triangle.  and  bisects ∠ABC. m∠CBD=2x, and m∠ABD=4x-30. Draw a figure and find the measure of exterior angle BCF. | | | | | | |