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Department of Education

Region IV - A CALABARZON

DIVISION OF ANTIPOLO CITY

District I-B

**BAGONG NAYON II NATIONAL HIGH SCHOOL**

***Lower San Isidro, Brgy. San Isidro Antipolo City***

**THIRD QUARTER EXAMINATION IN MATHEMATICS 8**

**SY 2023 – 2024**

**Directions**: Read and understand each item carefully. Write the letter of the correct answer on your answer sheet.

1. The top of a table best describe what undefined term in Geometry?

A. Coplanar B. Line C. Plane D. Point

2. Which of the following is ***NOT*** an undefined term in Geometry

A. Line B. Plane C. Point D. Quadrilateral

3. What statement is assumed to be true and accepted without proofs?

A. Definitions B. Postulate C. Theorem D. Undefined Terms

4. What structured is formed from one or more sets of defined objects, various concepts

which may or may not be defined, and set of axioms and theories relating to these

objects and concepts?

A. Corollary B. Mathematical System C. Postulate D. Theorem

5. Which illustrates a line segment BC?

B

C

B

C

B

C

A. B. •B and •C C. D.

6. Which is a part of a line with one endpoint and continues in one direction?

A. Angle B. Line Segment C. Point D. Ray

7. Which is a line, ray or segment which cuts another line segment into two equal parts?

A. Ray B. Line Segment Bisector C. Plane D. Point

8. What is the symbol for congruence?

A. B. C. < D.

9. What postulate describes the statement “If point C is between points A and B, then AC + CB = AB”?

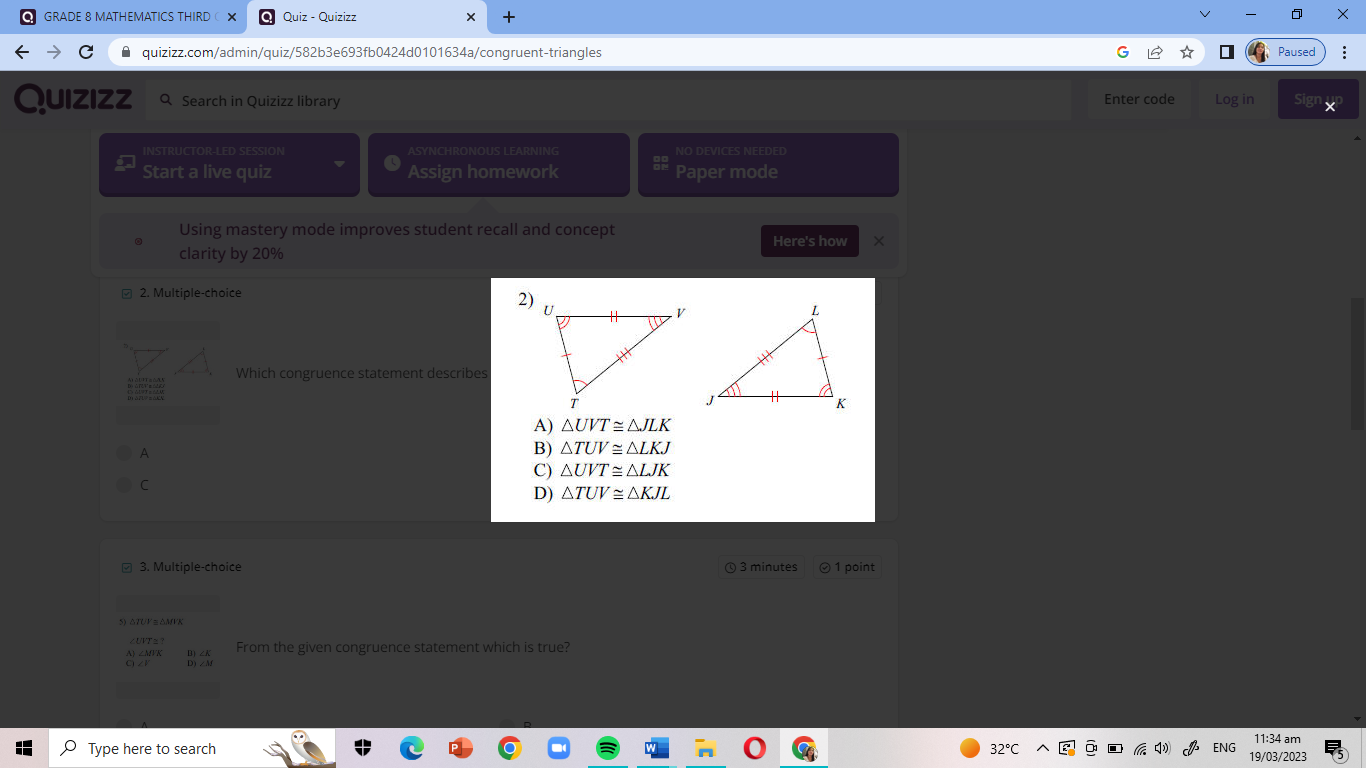
A. Angle Addition Postulate C. Midpoint

B. Corresponding Angle Postulate D. Segment Addition Postulate

10. What theorem states that “If the three sides of one triangle are congruent to the corresponding 3 sides of another triangle”, then the triangles are congruent?

A. SAS B. ASA C. AAS D. SSS

11. Which congruence statement describes the triangles?



A.

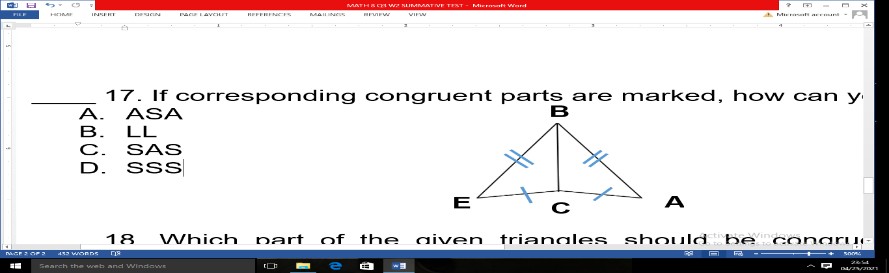
B.

C.

D.

12. Dhenri knows that in and , MI JA, IG AN, and MG JN. Which postulate can she use to prove the triangles are congruent?

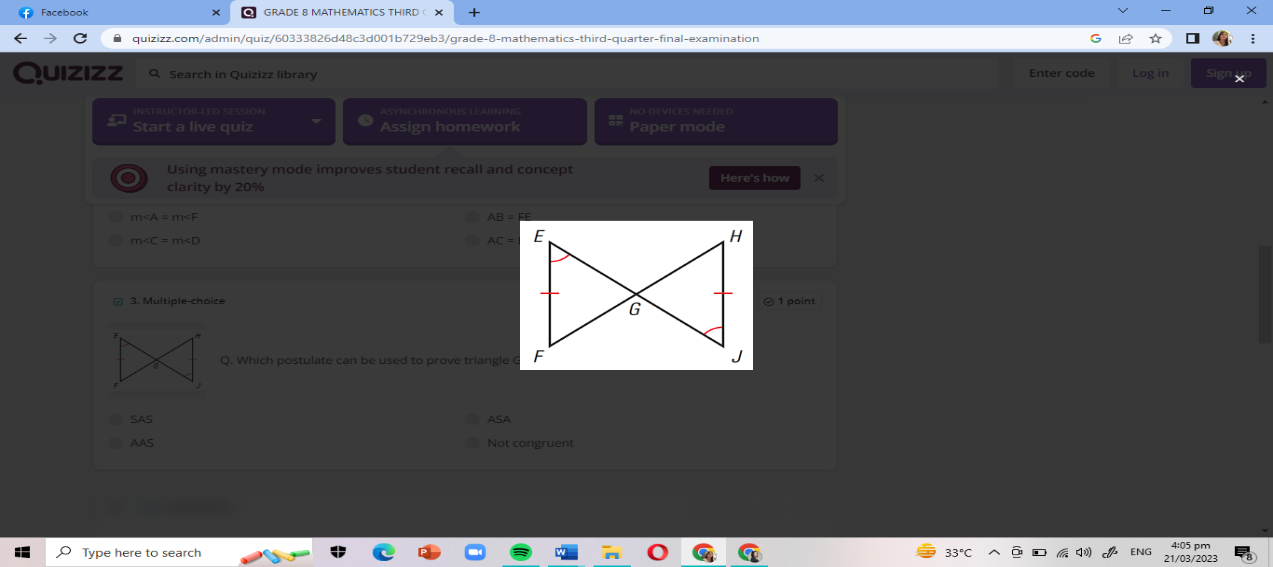
A. SAS B. SSS C. AAS D. ASA

13. Corresponding congruent parts are marked similarly, by what congruence postulate?

A. SAS C. AAS

B. SSS D. ASA

14. Which postulate can be used to prove that



A. SAS C. AAS

B. SSS D. ASA

15. Two triangles are congruent if their vertices can be paired so that corresponding \_\_\_\_\_\_\_\_are congruent and corresponding \_\_\_\_\_\_\_\_\_\_ are congruent.

A. angles, vertices B. sides, vertices C. vertices, angles D. sides, angles

16. Which part of the given triangles should be congruent to have SAS Congruent Postulate ?

G

O

M

A

J

R

1. ∠M ∠R

B ∠G ∠J

1. ∠A ∠ J
2. ∠A ∠0

17. Which part of the given triangles should be congruent to have SAS Congruent Postulate?

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Description automatically generatedA ∠3 ∠6

B ∠2 ∠5

C ∠1 ∠ 4

D ∠3 ∠4

18. If any two angles and the included side between the angles of one triangle are congruent to the two angles and the included side between the angles of the second triangle, then the two triangles are said to be congruent by what congruence postulate?

A. SSS B. ASA C. SAS D. AAS

19. In FOX CAT, FO CA and ∠F ∠C, which part of the given triangles should be congruent to have ASA congruence postulate?

A triangle with a straight line

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A . ∠X ∠T

B . ∠A ∠T

C . ∠O ∠ A

D . ∠F ∠A

20. Given : What other congruent parts can be deduced to proved by SAS Postulate ?

A. ABC C. ABC

B. ABC D. ABC

1. If corresponding congruent parts are marked, which congruent postulate proves that ?

E

C

A

D

A. SAS C. AAS

B. SSS D. ASA

22-25. Complete the two column proof below

Given: AE bisects BD

A

Prove:

A

E

D

C

B

|  |  |
| --- | --- |
| STATEMENT | REASON |
| A | Given |
| 2. AE bisects BD | 22.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Definition of segment bisector. |
| 4. ACB | 24.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. ? | 25.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

22. A. Reflexive Property C. Given

B. Angle Bisector D. Vertical Angle

23. A. AC EC B. DC BC C. ACB D. BCA

24. A. Angle Bisector B. Midpoint C. Reflexive Property D. Vertical Angle

25.A. SSS B. AAS C. SAS D. ASA

26. If IE bisects BIS, then BIE If the measure of BIE= , what is the measure of ?

A. B. C. D.

27. Given , BD bisect BC, if the measure of BC = , what is the mCBD?

A

C

B

D

A.

B.

C.

D.

28. If AB ⊥ AC, then BAC is a right angle. What concept is applied in that statement?

A. Right Angle C. Linear Pair

B. Perpendicularity D. Congruent angle

29. To prove that two lines are perpendicular, you must show the following theorems except for one, what is it?

A. If two lines are perpendicular to each other, then they form four right angles.

B. If two lines are perpendicular to each other, then they form three right angles.

C. If the angles in a linear pair are congruent, then the lines containing their sides are perpendicular .

D. If two angles are adjacent and complementary, the non-common sides are

Perpendicular.

30. It is a ray or a line that divides an angle into two equal parts.

A. Adjacent angle

B. Angle bisector

C. Midpoint

D. Vertical angle

31. Which of the following statement is **TRUE** about collinear points?

A. Points lying on the same line. C. Points not lying on the same plane.

B. Points lying on the same plane D. Points not lying on the same line.

32. Which of the following best describes a plane?

A. It has a location. C. A flat surface which extends infinitely in all directions

B. Consists of points. D. It is named using an uppercase letter. 33. Which statement is an example of a theorem?

A. If two lines intersect, then they intersect at exactly one point.

B. A line contains at least two points.

C. If point C is between points A and B, then AC + CB = AB.

D. If two planes intersect, then their intersection is a line.

34. Which of the following is the correct way of writing a point?

A. Line P B. •P C. Plane P D. **P**

35. Which undefined term has no size, no width, no length and no depth?

A. Line B. Plane C. Point D. Ray

36. Which of the following object represent a line?

A. edge of a ruler B. mirror C. paper D. period

37. If any two sides and the angle included between the sides of one triangle are equivalent to the corresponding two sides and the angle between the sides of the second triangle, then the two triangles are said to be congruent by what congruence postulate?

A. SSS B. AAS C. SAS D. ASA

38. Which of the following best describes AAS Congruent Postulates ?

i. 2 pair of corresponding triangles are congruent.

ii. 2 corrresponding included angles are congruent.

iii. 2 corresponding non- included sides are congruent.

A. i only B. ii only C. i and ii D. i and iii

39. What theorem states that “If the three sides of one triangle are congruent to the corresponding 3 sides of another triangle, then the triangles are congruent”?

A. AAS B. ASA C. SSS D. SAS

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Description automatically generated40. Which theorem or postulate can prove the congruence of the two triangles?

A. ASA Congruence

B. AAS Congruence

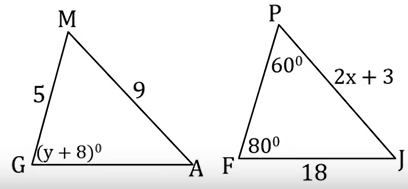
C. SAS Congruence

D. SSS Congruence

41. Grace knows that in and , all the corresponding sides are congruent and all the corresponding angles are congruent. Which of the following can she use to prove the triangle congruent?

A. SAS B. ASA C. CPCTC D. AAS

**For nos. 42-44:** Given

42. What is the value of x?

A. 2 B. 3 C. 4 D. 5

43. What is the value of y?

A. 71° B. 72° C. 73° D. 74°

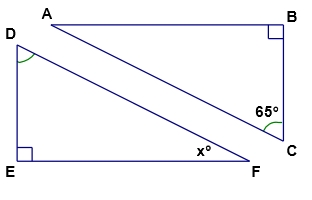
44. What is the measure of segment GA?

A. 3 units B. 5 units C. 9 units D. 18 units

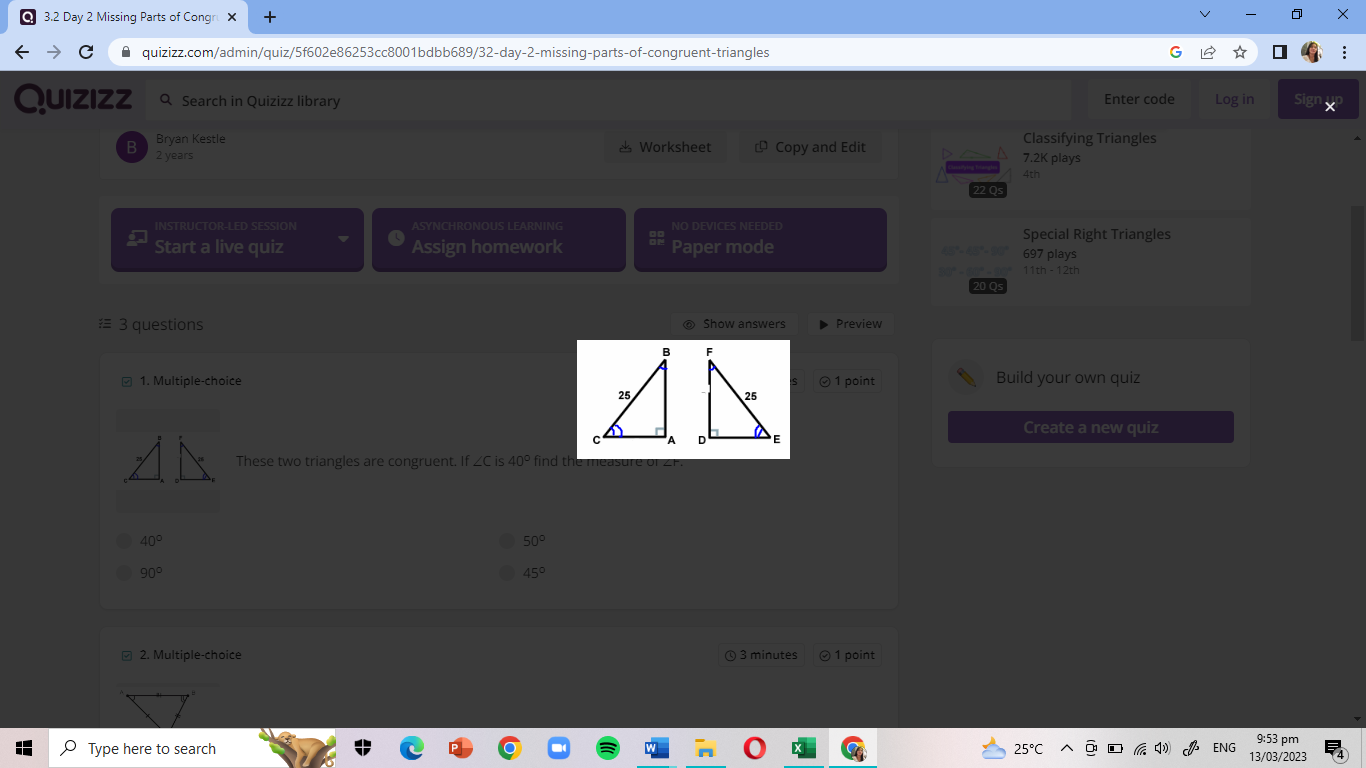
45. What is LJM if JL bisects ∠KJM and KJL = 42°?

A. 41° B. 42° C. 43° D. 44 °

46. What is the value of to conclude that the triangles are congruent?



1. 25°
2. 35°
3. 45°
4. 55°

47. If C is 40°, what is the measure of F? B F

A. 50° B. 60° C. 70° D. 80°

48. What Property of triangle congruence states that, “ If ΔCHE ≅ ΔGAM then

ΔGAM ≅ CHE.”

A. Associative Property C. Symmetric Property

B. Reflexive Property D. Transitive Property

49. Given which segment is congruent to AB?

A. EF B. DE C. DF D. BC

50. What theorem states that “If a point in the interior of an angle is equidistant from the sides of the angle, then it is on the bisector of the angle”?.

A. Perpendicular Bisector Theorem

B. Converse of the Perpendicular Bisector Theorem

C. Angle Bisector Theorem

D. Converse of the Angle Bisector Theorem