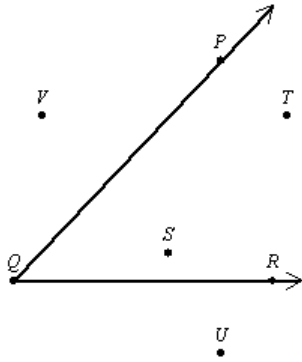


1. Name three points in the diagram that are *not* collinear.



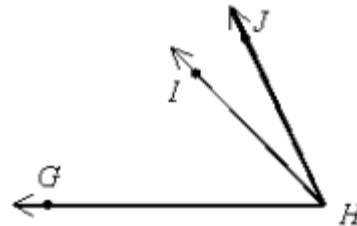
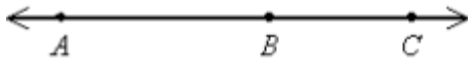
2. If $RS = 44$ and $QS = 68$, find QR .



3. $R, S,$ and T are collinear. S is between R and T . $RS = 2w + 1$, $ST = w - 1$, and $RT = 18$. Use the Segment Addition Postulate to solve for w . Then determine the length of \overline{RS} .

7. $m\angle JHI = (2x + 7)^\circ$ and $m\angle GHI = (8x - 2)^\circ$ and $m\angle JHG = 65^\circ$. Find $m\angle JHI$ and $m\angle GHI$.

4. If $AB = 19$ and $AC = 32$, find the length of \overline{BC} .

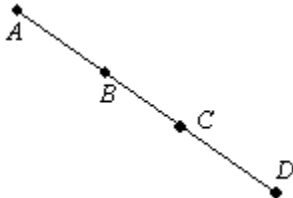


Fill in the correct word(s) to make the statement true.

5. Mathematical statements that are assumed to be true are called _____.

8. The measure of angle A is 98° . Classify angle A as an acute, right, or obtuse angle.

$BC = 7x - 13$, $AB = 4x + 26$, B is the midpoint of \overline{AC} .

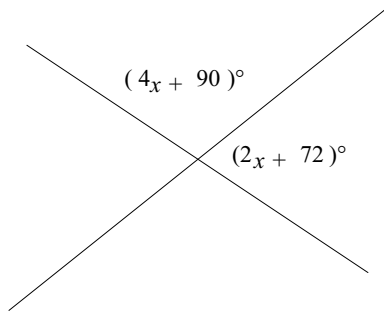


9. The nonshared sides of two adjacent angles form a pair of opposite rays. The angles are _____.
- acute
 - complementary
 - a linear pair
 - vertical angles

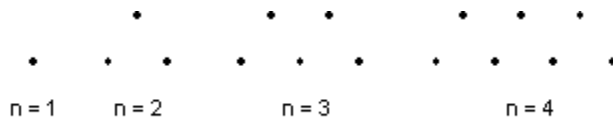
6. Find AB and BC in the situation shown above.

Complete the conditional statement to make a true statement.

- 10. If $\angle R$ and $\angle S$ are complementary and $m\angle R = 35^\circ$, then _____.
- 11. If $\angle G$ and $\angle H$ are supplementary and $m\angle H = 67^\circ$, then _____.
- 12. Solve for x :



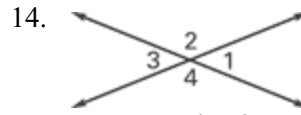
- 19. Complete the table.



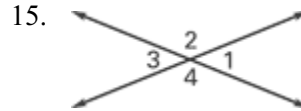
n	1	2	3	4	5	6
n th number	1	3	5	?	?	?

- 20. Rewrite the statement in if-then form.
Every triangle has three sides.
- 21. "If an obtuse angle is bisected, then two acute angles are obtained." Write the converse of this conditional statement. Is the converse true?

- 13. $\angle 1$ and $\angle 2$ form a linear pair. $m\angle 1 = 73^\circ$. Find $m\angle 2$.



- 14. Name a pair of vertical angles in the figure above.



- 15. Name an angle supplementary to $\angle 2$ in the figure above.

- 16. Complete the statement. A regular polygon is both _____ and equiangular.
- 17. The expressions $5x - 4$ and $3x$ represent two side lengths (in meters) of a regular octagon. Find the length of a side of the octagon.
- 18. The expressions $(3x + 18)^\circ$ and $(5x - 42)^\circ$ represent two angle measures of a regular pentagon. Find the measure of an angle of the pentagon.

- 22. Write the converse of the true statement and decide whether the converse is true or false. If the converse is true, combine it with the original statement to form a true biconditional statement. If the converse is false, state a counterexample:
- 23. Rewrite the postulate in if-then form.
"A line contains at least two points."
- 24. Sketch a diagram showing the following: Line m is perpendicular to segment AB at P , the midpoint of segment AB .

If an angle has a measure of 90° , then it is a right angle.

25. Name the property which justifies the following conclusion:

Given: $b + c - d = e$ and $d = a$

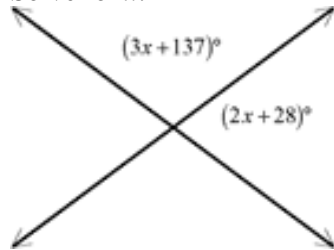
Conclusion: $b + c - a = e$

Identify the property that makes the statement true.

26. If $XY = MN$, then $MN = XY$.

27. If $m\angle P = m\angle R$ and $m\angle R = m\angle T$, then $m\angle P = m\angle T$.

28. Solve for x .



32. Provide the reasons for statements 3 and 5 in the proof.

Given: $\angle 1$ and $\angle 2$ form a linear pair; $m\angle 2 = 100^\circ$

Prove: $m\angle 1 = 80^\circ$

Statements	Reasons
1. $m\angle 2 = 100^\circ$	1. Given
2. $\angle 1$ and $\angle 2$ are a linear pair.	2. Given
3. $m\angle 1 + m\angle 2 = 180^\circ$	3. ?
4. $m\angle 1 + 100^\circ = 180^\circ$	4. Substitution Property of Equality
5. $m\angle 1 = 80^\circ$	5. ?

33. Two lines that are not coplanar and do not intersect are called _____.

- a. Parallel
- b. oblique
- c. perpendicular
- d. skew lines

34. In the figure, $\angle 1$ and $\angle 2$ are _____.

35. In the figure, $\angle 6$ and $\angle 3$ are _____.

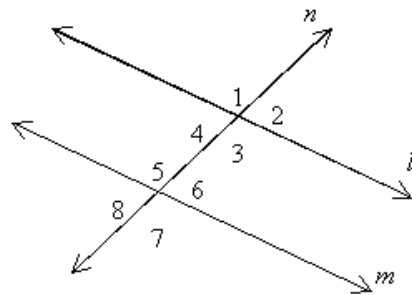
36. In the figure, $\angle 6$ and $\angle 2$ are _____.

29. Give the reason for the last statement in the proof.

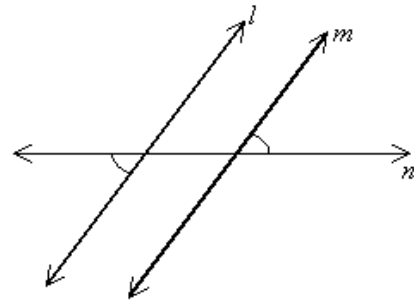
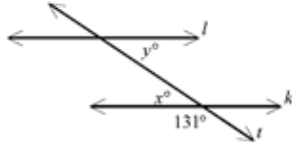
Statement	Reason
$\angle 1$ and $\angle 2$ are a linear pair.	Given
$\angle 1$ and $\angle 2$ are supplementary.	?

30. $\angle 1$ and $\angle 2$ form a linear pair. If $m\angle 2 = 67^\circ$, what is $m\angle 1$?

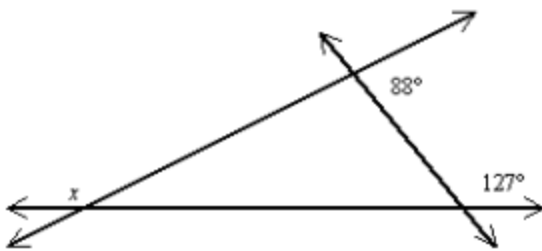
31. $\angle 1$ and $\angle 2$ are supplementary angles. $\angle 1$ and $\angle 3$ are vertical angles. $m\angle 2 = 67^\circ$. Find $m\angle 3$.



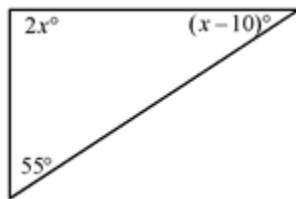
37. In the figure below, if l and k are parallel lines, what is the value of x and y ?



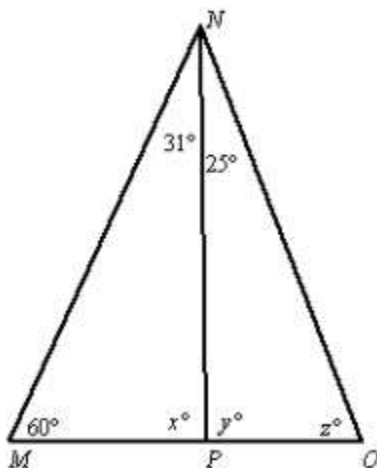
38. Refer to the figure. Which theorem guarantees l and m are parallel?
39. Find the value of x :



40. Use the figure below to solve for x .



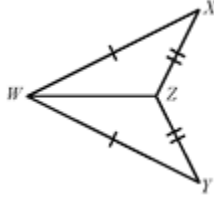
41. What is the value of z ? (The figure may not be drawn to scale.)



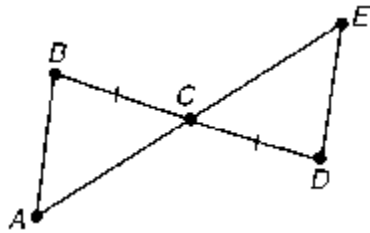
42. Given: $\triangle LMN \cong \triangle UVW$. Complete the statements.

- a. $\overline{UW} \cong \underline{\hspace{1cm}}$
- b. $\angle LMN \cong \underline{\hspace{1cm}}$

43. Identify the congruent triangles. How do you know they are congruent?

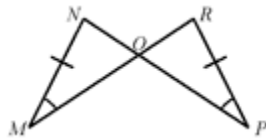


44. What must be true in order for $\triangle ABC \cong \triangle EDC$ by the SAS Congruence Postulate?



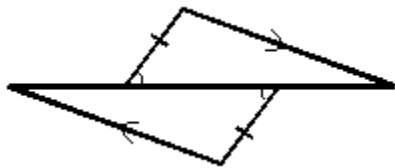
- a. $\angle B \cong \angle D$
- b. $\angle A \cong \angle E$
- c. $\overline{AC} \cong \overline{CE}$
- d. $\overline{AB} \cong \overline{DE}$

45. Identify the congruent triangles. How do you know they are congruent?

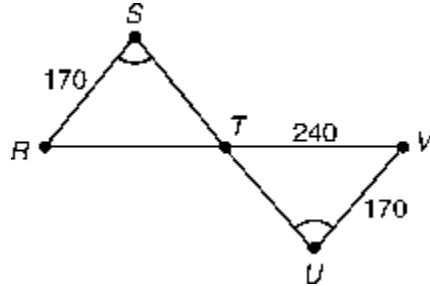


Would HL, ASA, SAS, AAS, or SSS be used to justify that the pair of triangles is congruent?

46.

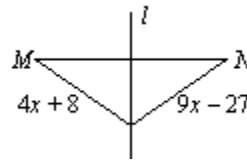


47. Which postulate or theorem can be used to determine the length of \overline{RT} ?

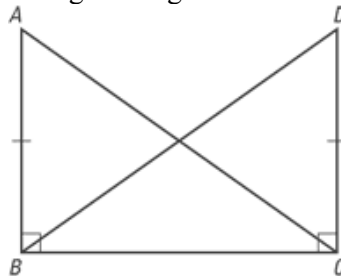


Line l is the perpendicular bisector of \overline{MN} .

48. Find the value of x .



49. Explain how you can prove that the hypotenuses of the right triangles $\triangle ABC$ and $\triangle DCB$ are congruent.



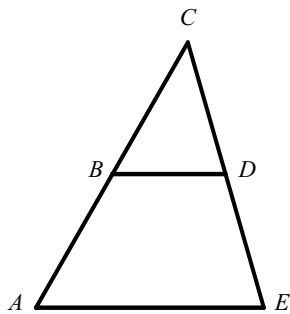
50. What is the measure of each base angle of an isosceles triangle if its vertex angle measures 40 degrees and its 2 congruent sides measure 25 units?



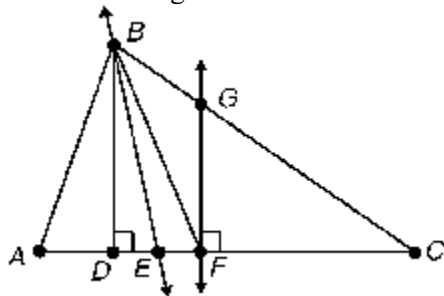
51. Find the values of x and y .



52. Solve for x given $\overline{BD} = 3x + 3$ and $\overline{AE} = 4x + 8$. Assume B is the midpoint of \overline{AC} and D is the midpoint of \overline{CE} .



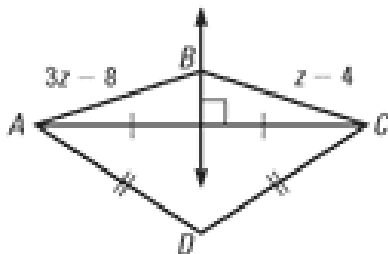
53. Refer to the figure below.



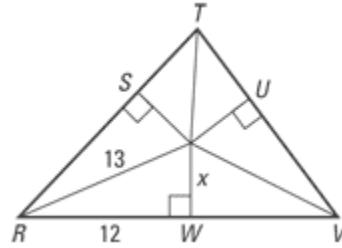
Given: $\overline{AF} \cong \overline{FC}$

Which line is a perpendicular bisector in $\triangle ABC$?

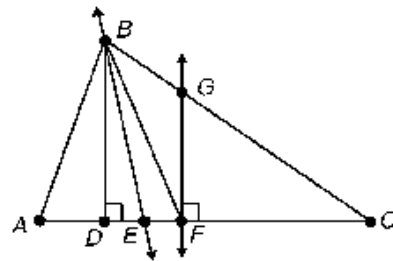
54. Find the value of z . Is there enough information to show that D lies on the vertical line that passes through B ?



55. In the diagram, X is the incenter of $\triangle RTV$. Find XU .

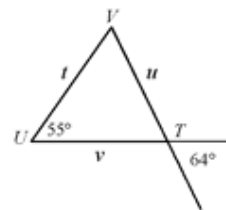


Refer to the figure below.



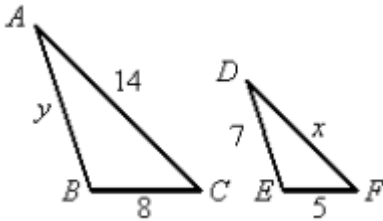
Given: $\overline{AF} \cong \overline{FC}$, $\angle ABE \cong \angle ECB$

56. A median of $\triangle ABC$ is ____.
57. An altitude of $\triangle ABC$ is ____.
58. Which of these lengths could be the sides of a triangle?
- 15 cm, 4 cm, 20 cm
 - 3 cm, 15 cm, 20 cm
 - 11 cm, 5 cm, 16 cm
 - 5 cm, 12 cm, 16 cm
59. If one angle of a triangle is larger than another angle, then the side opposite the larger angle is longer than the side opposite the smaller angle. Use this fact to help you list the sides of triangle TUV in order from **greatest** to **least**. (The figure may not be drawn to scale.)

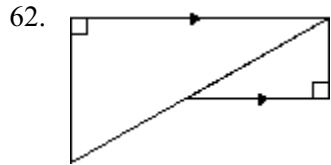


60. Solve the proportion $\frac{5}{x-1} = \frac{7}{x}$.

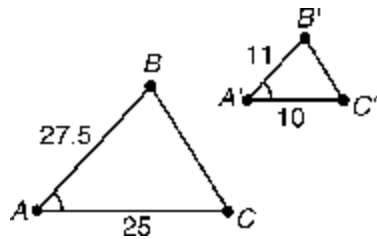
61. Given that $\triangle ABC \sim \triangle DEF$, solve for x and y .



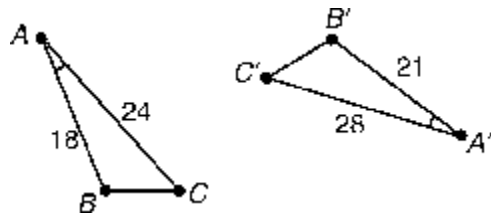
Tell whether each pair of triangles is similar. Explain your reasoning.



63. Shown below is an illustration of the _____.

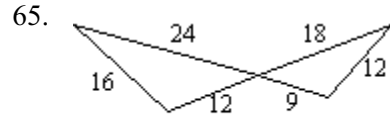


64. State the postulate or theorem that can be used to prove that the two triangles are similar.

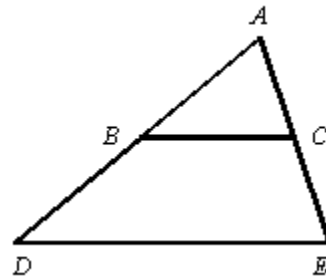


Tell whether each pair of triangles is similar.

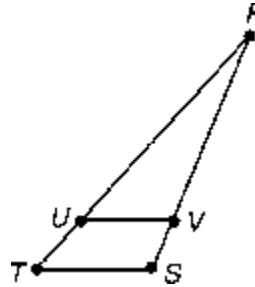
Explain your reasoning.



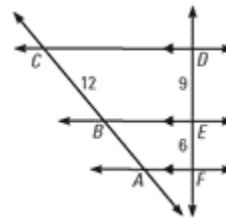
66. In the figure shown, $\overline{BC} \parallel \overline{DE}$, $AB = 2$ yards, $BC = 7$ yards, $AE = 18$ yards, and $DE = 21$ yards. Find CE .



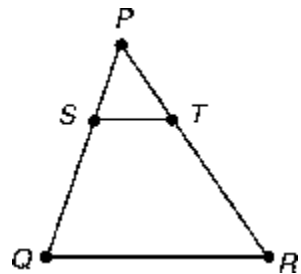
67. Given that $\frac{RU}{UT} = \frac{RV}{VS}$, what is the relationship between \overline{UV} and \overline{TS} ?



68. Find AC .



69. Given that $\triangle PQR \sim \triangle PST$, explain why $\overline{QR} \parallel \overline{ST}$.



Geometry Semester I Review Answer Section

1. ANS:

Answers will vary. P , V , and R

PTS: 1

DIF: Level A

REF: MGEO0002

TOP: Lesson 1.1 Identify Points, Lines, and Planes

KEY: collinear | points

BLM: Comprehension

NOT: 978-0-618-65613-4

2. ANS:

24

PTS: 1

DIF: Level B

REF: PHGM0109

TOP: Lesson 1.2 Use Segments and Congruence

KEY: segment length | segment addition postulate

BLM: Application

NOT: 978-0-618-65613-4

3. ANS:

13

PTS: 1

DIF: Level B

REF: MGEH0002

TOP: Lesson 1.2 Use Segments and Congruence

KEY: segment length | segment addition postulate

BLM: Application

NOT: 978-0-618-65613-4

4. ANS:

13

PTS: 1

DIF: Level B

REF: PHGM0108

TOP: Lesson 1.2 Use Segments and Congruence

KEY: segment length | segment addition postulate

BLM: Application

NOT: 978-0-618-65613-4

5. ANS:

postulates

PTS: 1

DIF: Level A

REF: MIM20417

STA: CA.CACS.MTH.97.GEO.G.1.0

TOP: Lesson 1.2 Use Segments and Congruence

KEY: postulate | definition

BLM: Knowledge NOT: 978-0-618-65613-4

6. ANS:

 $AB = 78, BC = 78$

PTS: 1

DIF: Level B

REF: BS022003

NAT: NCTM 9-12.REP.2 | NCTM 9-12.PRS.3

TOP: Lesson 1.3 Use Midpoint and Distance Formulas

KEY: segment length | midpoint

BLM: Synthesis NOT: 978-0-618-65613-4

7. ANS:

 $m\angle JHI = 19^\circ$ and $m\angle GHI = 46^\circ$

PTS: 1

DIF: Level C

REF: MLGE0216

NAT: NCTM 9-12.REP.2 | NCTM 9-12.PRS.3

TOP: Lesson 1.4 Measure and Classify Angles

KEY: angle addition postulate | angle measure

BLM: Synthesis NOT: 978-0-618-65613-4

8. ANS:

obtuse

PTS: 1 DIF: Level A REF: MPPA1218 TOP: Lesson 1.4 Measure and Classify Angles
 KEY: angle | classify BLM: Knowledge NOT: 978-0-618-65613-4

9. ANS: C PTS: 1 DIF: Level B REF: MGEH0009
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: adjacent angles
 BLM: Comprehension NOT: 978-0-618-65613-4

10. ANS:
 $m\angle S = 55^\circ$

PTS: 1 DIF: Level B REF: MGEO0044
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: angle measure | complementary angles
 BLM: Application NOT: 978-0-618-65613-4

11. ANS:
 $m\angle G = 113^\circ$

PTS: 1 DIF: Level B REF: MGEO0043
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: supplementary angles | angle measure
 BLM: Application NOT: 978-0-618-65613-4

12. ANS:
 $x = 3$

PTS: 1 DIF: Level B REF: MLGE0198 NAT: NCTM 9-12.PRS.3 | NCTM 9-12.REP.2
 TOP: Lesson 1.5 Describe Angle Pair Relationships
 KEY: supplementary angles | adjacent angles | solve BLM: Application
 NOT: 978-0-618-65613-4

13. ANS:
 107°

PTS: 1 DIF: Level B REF: MGEH0011
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: supplementary | linear pair
 BLM: Comprehension NOT: 978-0-618-65613-4

14. ANS:
 $\angle 1$ and $\angle 3$ or $\angle 2$ and $\angle 4$

PTS: 1 DIF: Level A REF: MIM10111
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: vertical angles
 BLM: Knowledge NOT: 978-0-618-65613-4

15. ANS:
 $\angle 1$ or $\angle 3$

PTS: 1 DIF: Level A REF: MIM10112 NAT: NCTM 9-12.GEO.1.a
 TOP: Lesson 1.5 Describe Angle Pair Relationships KEY: supplementary angles
 BLM: Knowledge NOT: 978-0-618-65613-4

16. ANS: equilateral

PTS: 1 DIF: Level A REF: BS022036 TOP: Lesson 1.6 Classify Polygons
 KEY: definition | regular polygon BLM: Knowledge NOT: 978-0-618-65613-4

17. ANS:
 6 meters

PTS: 1 DIF: Level B REF: 7f4eb5e5-cdbb-11db-b502-0011258082f7
 TOP: Lesson 1.6 Classify Polygons KEY: regular polygon | octagon | side length
 BLM: Application NOT: 978-0-618-65613-4

18. ANS:
 108°

PTS: 1 DIF: Level B REF: 7f4edcf5-cdbb-11db-b502-0011258082f7
 TOP: Lesson 1.6 Classify Polygons KEY: regular polygon | pentagon | angle measure
 BLM: Application NOT: 978-0-618-65613-4

19. ANS:
 7, 9, 11

PTS: 1 DIF: Level B REF: MHGT0057 TOP: Lesson 2.1 Use Inductive Reasoning
 KEY: table | pattern | predict BLM: Comprehension
 NOT: 978-0-618-65613-4

20. ANS:
 If a figure is a triangle, then it has three sides.

PTS: 1 DIF: Level B REF: MLGE0174
 TOP: Lesson 2.2 Analyze Conditional Statements
 KEY: conditional | hypothesis | conclusion | if-then BLM: Comprehension
 NOT: 978-0-618-65613-4

21. ANS:
 If two acute angles are obtained when bisecting an angle, then the angle is obtuse. The converse is false. The angle could be acute.

PTS: 1 DIF: Level B REF: MHGT0065
 TOP: Lesson 2.2 Analyze Conditional Statements KEY: converse | conditional statement
 BLM: Analysis NOT: 978-0-618-65613-4

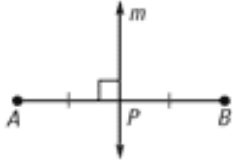
22. ANS:
 If an angle is a right angle, then it has a measure of 90°. True
 Biconditional: An angle is a right angle if and only if it has a measure of 90°.

PTS: 1 DIF: Level B REF: MLGE0024C
 NAT: NCTM 9-12.GEO.1.c TOP: Lesson 2.2 Analyze Conditional Statements
 KEY: counterexample | definition | biconditional BLM: Application
 NOT: 978-0-618-65613-4

23. ANS:
 If a figure is a line, then it contains at least two points.

PTS: 1 DIF: Level A REF: MLGE0071 TOP: Lesson 2.4 Use Postulates and Diagrams
 KEY: conditional | postulate | if-then BLM: Knowledge NOT: 978-0-618-65613-4

24. ANS:
 Diagram:



PTS: 1 DIF: Level B REF: 7fa13b13-cdbb-11db-b502-0011258082f7
 TOP: Lesson 2.4 Use Postulates and Diagrams KEY: Postulate | diagram
 BLM: Knowledge NOT: 978-0-618-65613-4

25. ANS:
 Substitution property of equality

PTS: 1 DIF: Level B REF: MLGE0454 NAT: NCTM 9-12.ALG.2.b
 TOP: Lesson 2.5 Reason Using Properties from Algebra
 KEY: property | distributive | substitution | algebra | equality | transitive
 BLM: Comprehension NOT: 978-0-618-65613-4

26. ANS:
 Symmetric Property of Equality

PTS: 1 DIF: Level A REF: BS022081 NAT: NCTM 9-12.ALG.2.b
 TOP: Lesson 2.5 Reason Using Properties from Algebra
 KEY: property | segment | TAAS2 | symmetric | TEKSb3E BLM: Knowledge
 NOT: 978-0-618-65613-4

27. ANS:
 Transitive Property of Equality

PTS: 1 DIF: Level A REF: BS022082 NAT: NCTM 9-12.ALG.2.b
 TOP: Lesson 2.5 Reason Using Properties from Algebra
 KEY: property | angle | TAAS2 | TEKSb3E | transitive BLM: Knowledge
 NOT: 978-0-618-65613-4

28. ANS:
 3

PTS: 1 DIF: Level B REF: MLGE0199 NAT: NCTM 9-12.REP.2 | NCTM 9-12.PRS.3
 TOP: Lesson 2.7 Prove Angle Pair Relationships KEY: supplementary angles | vertical angles
 BLM: Application NOT: 978-0-618-65613-4

29. ANS:
 Linear Pair Postulate

PTS: 1 DIF: Level A REF: MHGM0029B
 NAT: NCTM 9-12.REA.4 | NCTM 9-12.GEO.1.a
 TOP: Lesson 2.7 Prove Angle Pair Relationships KEY: proof | deductive | postulate
 BLM: Comprehension NOT: 978-0-618-65613-4

30. ANS:
 113°

PTS: 1 DIF: Level A REF: MLGE0444
 TOP: Lesson 2.7 Prove Angle Pair Relationships KEY: angle | supplementary | linear pair
 BLM: Knowledge NOT: 978-0-618-65613-4

31. ANS:

113°

PTS: 1 DIF: Level B REF: MGEH0014 NAT: NCTM 9-12.GEO.1.a
 TOP: Lesson 2.7 Prove Angle Pair Relationships KEY: angle | supplementary
 BLM: Comprehension NOT: 978-0-618-65613-4

32. ANS:

3. Linear Pair Postulate
 5. Subtraction Property of Equality

PTS: 1 DIF: Level A REF: MGEH0018
 NAT: NCTM 9-12.ALG.2.b | NCTM 9-12.GEO.1.c | NCTM 9-12.REA.3 | NCTM 9-12.REA.4
 STA: CA.CACS.MTH.97.GEO.G.2.0 TOP: Lesson 2.7 Prove Angle Pair Relationships
 KEY: angle | supplementary | linear pair BLM: Comprehension
 NOT: 978-0-618-65613-4

33. ANS: D

PTS: 1 DIF: Level A REF: MHGT0133
 TOP: Lesson 3.1 Identify Pairs of Lines and Angles KEY: skew | coplanar
 BLM: Knowledge NOT: 978-0-618-65613-4

34. ANS:

Linear pair

PTS: 1 DIF: Level B REF: MGEH0022
 TOP: Lesson 3.1 Identify Pairs of Lines and Angles KEY: angles | exterior | alternate
 BLM: Knowledge NOT: 978-0-618-65613-4

35. ANS:

consecutive interior angles

PTS: 1 DIF: Level B REF: MGEH0023
 TOP: Lesson 3.1 Identify Pairs of Lines and Angles KEY: angles | interior | consecutive
 BLM: Knowledge NOT: 978-0-618-65613-4

36. ANS:

corresponding angles

PTS: 1 DIF: Level B REF: MGEH0024
 TOP: Lesson 3.1 Identify Pairs of Lines and Angles KEY: corresponding angles
 BLM: Knowledge NOT: 978-0-618-65613-4

37. ANS:

98°

PTS: 1 DIF: Level B REF: MIM20665 NAT: NCTM 9-12.GEO.1.a
 STA: CA.CACS.MTH.97.GEO.G.7.0 TOP: Lesson 3.2 Use Parallel Lines and Transversals
 KEY: angle | measure | alternate interior BLM: Application NOT: 978-0-618-65613-4

38. ANS:

Alternate Exterior Angles Converse

PTS: 1 DIF: Level A REF: MGEH0029 STA: CA.CACS.MTH.97.GEO.G.7.0
 TOP: Lesson 3.3 Prove Lines are Parallel KEY: converse | Alternate Exterior Angles
 BLM: Comprehension NOT: 978-0-618-65613-4

39. ANS:

145°

PTS: 1 DIF: Level A REF: MHGM0049
 STA: CA.CACS.MTH.97.GEO.G.12.0 TOP: Lesson 4.1 Apply Triangle Sum Properties
 KEY: angle | theorem | exterior BLM: Comprehension
 NOT: 978-0-618-65613-4

40. ANS:
45

PTS: 1 DIF: Level B REF: MLGE0226 STA: CA.CACS.MTH.97.GEO.G.12.0
 TOP: Lesson 4.1 Apply Triangle Sum Properties KEY: solve | angle | triangle
 BLM: Comprehension NOT: 978-0-618-65613-4

41. ANS:
 $z = 64$

PTS: 1 DIF: Level B REF: MCT90016 STA: CA.CACS.MTH.97.GEO.G.12.0
 TOP: Lesson 4.1 Apply Triangle Sum Properties
 KEY: angle | triangle | sum | interior | supplement | complementary | exterior
 BLM: Comprehension NOT: 978-0-618-65613-4

42. ANS: a. \overline{LN} b. $\angle UVW$

PTS: 1 DIF: Level A REF: MLGE0123
 TOP: Lesson 4.2 Apply Congruence and Triangles KEY: angle | triangle | segment | congruent
 BLM: Knowledge NOT: 978-0-618-65613-4

43. ANS:
 $\triangle WXZ \cong \triangle WYZ$, SSS

PTS: 1 DIF: Level A REF: MIM20472
 TOP: Lesson 4.3 Prove Triangles Congruent by SSS KEY: triangle | congruent | SSS
 BLM: Comprehension NOT: 978-0-618-65613-4

44. ANS: C PTS: 1 DIF: Level B REF: HLG M0307
 TOP: Lesson 4.4 Prove Triangles Congruent by SAS and HL KEY: triangle | congruent | SAS
 BLM: Knowledge NOT: 978-0-618-65613-4

45. ANS:
 $\triangle MNO \cong \triangle PRO$, AAS

PTS: 1 DIF: Level B REF: MIM20464
 TOP: Lesson 4.5 Prove Triangles Congruent by ASA and AAS KEY: triangle | congruent | proof
 BLM: Comprehension NOT: 978-0-618-65613-4

46. ANS:
AAS

PTS: 1 DIF: Level B REF: MIM20468
 TOP: Lesson 4.5 Prove Triangles Congruent by ASA and AAS KEY: congruent | proof | triangle
 BLM: Comprehension NOT: 978-0-618-65613-4

47. ANS:
AAS Congruence Theorem

PTS: 1 DIF: Level B REF: HLG M0316 TOP: Lesson 4.6 Use Congruent Triangles
 KEY: triangle | length | segment | AAS BLM: Comprehension
 NOT: 978-0-618-65613-4

48. ANS:
7

PTS: 1 DIF: Level B REF: BS022250 TOP: Lesson 4.6 Use Congruent Triangles
KEY: linear | equation | triangle | perpendicular bisector BLM: Application
NOT: 978-0-618-65613-4

49. ANS:

You can use the SAS Congruence Postulate to prove that $\triangle ABC \cong \triangle DCB$. Since corresponding parts of congruent triangles are congruent, $\overline{AC} \cong \overline{DB}$.

PTS: 1 DIF: Level A REF: GEO.04.06.SR.07
NAT: NCTM 9-12.GEO.1.c | NCTM 9-12.REA.4 | NCTM 9-12.GEO.1.b | NCTM 9-12.REA.3
STA: CA.CACS.MTH.97.GEO.G.2.0 TOP: Lesson 4.6 Use Congruent Triangles
KEY: Short Response | Right | Triangle | Congruent | SAS BLM: Analysis
NOT: 978-0-618-65613-4

50. ANS: A

PTS: 1 DIF: Level B REF: TASH0121
TOP: Lesson 4.7 Use Isosceles and Equilateral Triangles KEY: angle | triangle | isosceles
BLM: Comprehension NOT: 978-0-618-65613-4

51. ANS:

$x = 12^\circ, y = 84^\circ$

PTS: 1 DIF: Level B REF: PHGM0402 NAT: NCTM 9-12.GEO.1.a
TOP: Lesson 4.7 Use Isosceles and Equilateral Triangles KEY: angle | isosceles | exterior angle
BLM: Comprehension NOT: 978-0-618-65613-4

52. ANS:
1

PTS: 1 DIF: Level B REF: PHGM0014 STA: CA.CACS.MTH.97.GEO.G.17.0
TOP: Lesson 5.1 Midsegment Theorem and Coordinate Proof KEY: triangle | midsegment
BLM: Application NOT: 978-0-618-65613-4

53. ANS:

\overleftrightarrow{GF}

PTS: 1 DIF: Level B REF: HLGM0366 TOP: Lesson 5.2 Use Perpendicular Bisectors
KEY: triangle | perpendicular | bisector BLM: Comprehension
NOT: 978-0-618-65613-4

54. ANS:

$z = 6$; yes

PTS: 1 DIF: Level B REF: 7f596858-cdbb-11db-b502-0011258082f7
TOP: Lesson 5.2 Use Perpendicular Bisectors KEY: Perpendicular bisector theorem |
converse
BLM: Knowledge NOT: 978-0-618-65613-4

55. ANS:

$XU = 5$

PTS: 1 DIF: Level B REF: GEO.05.03.FR.08
TOP: Lesson 5.3 Use Angle Bisectors of Triangles
KEY: Free Response | angle bisector | incenter | length BLM: Comprehension
NOT: 978-0-618-65613-4

56. ANS:

$$\overline{BF}$$

PTS: 1 DIF: Level B REF: MLGE0129 TOP: Lesson 5.4 Use Medians and Altitudes
KEY: triangle | median BLM: Knowledge NOT: 978-0-618-65613-4

57. ANS:

$$\overline{BD}$$

PTS: 1 DIF: Level B REF: MLGE0449 TOP: Lesson 5.4 Use Medians and Altitudes
KEY: triangle | altitude BLM: Knowledge NOT: 978-0-618-65613-4

58. ANS: D PTS: 1

STA: CA.CACS.MTH.97.GEO.G.6.0 DIF: Level B REF: PHGM0418
TOP: Lesson 5.5 Use Inequalities in a Triangle
KEY: triangle inequality BLM: Comprehension
NOT: 978-0-618-65613-4

59. ANS:

$$t, v, u$$

PTS: 1 DIF: Level B REF: MCT90063 TOP: Lesson 5.5 Use Inequalities in a Triangle
KEY: angle | triangle | order | side BLM: Comprehension
NOT: 978-0-618-65613-4

60. ANS:

$$x = \frac{7}{2}$$

PTS: 1 DIF: Level B REF: HLGM0595
TOP: Lesson 6.1 Ratios, Proportions, and Geometric Mean KEY: solve | proportion
BLM: Comprehension NOT: 978-0-618-65613-4

61. ANS:

$$x = 8.75, y = 11.2$$

PTS: 1 DIF: Level B REF: MLA10071 NAT: NCTM 9-12.GEO.1.b
STA: CA.CACS.MTH.97.GEO.G.5.0 TOP: Lesson 6.3 Use Similar Polygons
KEY: solve | proportion | similar | triangle BLM: Comprehension
NOT: 978-0-618-65613-4

62. ANS:

Yes; The two right angles are congruent, and since parallel lines are given the alternate interior angles are congruent, so the triangles are similar by the AA Similarity Postulate

PTS: 1 DIF: Level B REF: BS022349 NAT: NCTM 9-12.GEO.1.b
TOP: Lesson 6.4 Prove Triangles Similar by AA KEY: similar | triangle | TEKSf1 | AA
similarity
BLM: Analysis NOT: 978-0-618-65613-4

63. ANS:

SAS Similarity Theorem

PTS: 1 DIF: Level B REF: HLGM0654
TOP: Lesson 6.5 Prove Triangles Similar by SSS and SAS KEY: triangle | SAS
BLM: Knowledge NOT: 978-0-618-65613-4

64. ANS:

SAS Similarity Theorem

PTS: 1 DIF: Level B REF: MLGE0414

TOP: Lesson 6.5 Prove Triangles Similar by SSS and SAS

KEY: similar | triangle | theorem | prove | postulate

BLM: Knowledge

NOT: 978-0-618-65613-4

65. ANS:

Yes; SSS Or SAS Similarity Theorem

PTS: 1 DIF: Level B REF: BS022348 NAT: NCTM 9-12.GEO.1.b

TOP: Lesson 6.5 Prove Triangles Similar by SSS and SAS

KEY: similar | triangle | SSS | TEKSf1

BLM: Comprehension

NOT: 978-0-618-65613-4

66. ANS:

12 yd

PTS: 1 DIF: Level B REF: MLGM0048 TOP: Lesson 6.6 Use Proportionality Theorems

KEY: proportion | similar | triangles

BLM: Knowledge

NOT: 978-0-618-65613-4

67. ANS:

$\overline{UV} \parallel \overline{TS}$

PTS: 1 DIF: Level A REF: HLGM0661 TOP: Lesson 6.6 Use Proportionality Theorems

KEY: proportion | relationship

BLM: Comprehension

NOT: 978-0-618-65613-4

68. ANS:

20

PTS: 1 DIF: Level B REF: 7f5c76c2-cdbb-11db-b502-0011258082f7

TOP: Lesson 6.6 Use Proportionality Theorems

KEY: Parallel lines | transversal | proportion

BLM: Knowledge NOT: 978-0-618-65613-4

69. ANS:

Since $\triangle PST \sim \triangle PQR$, $\angle PST \cong \angle Q$ and $\angle PTS \cong \angle R$. Since the pairs of angles are corresponding angles, $\overline{ST} \parallel \overline{QR}$ by the Corresponding Angles Converse Postulate.

PTS: 1 DIF: Level B REF: MLGE0376 TOP: Lesson 6.6 Use Proportionality Theorems

KEY: similar | triangle | parallel

BLM: Analysis

NOT: 978-0-618-65613-4