

Geometry Practice Semester Exam Chapters 8 - 13

Answer Section

1. ANS:

$$2\sqrt{41} \text{ ft}$$

PTS: 1 DIF: L3 REF: 8-1 The Pythagorean Theorem and Its Converse
 OBJ: 8-1.1 To use the Pythagorean theorem and its converse
 NAT: CC G.SRT.4| CC G.SRT.8| N.5.e| G.3.d
 TOP: 8-1 Problem 1 Finding the Length of the Hypotenuse
 KEY: Pythagorean Theorem | leg | hypotenuse

2. ANS:

$$\text{yes; } 6^2 + 8^2 = 10^2$$

PTS: 1 DIF: L3 REF: 8-1 The Pythagorean Theorem and Its Converse
 OBJ: 8-1.1 To use the Pythagorean theorem and its converse
 NAT: CC G.SRT.4| CC G.SRT.8| N.5.e| G.3.d
 TOP: 8-1 Problem 4 Identifying a Right Triangle
 KEY: Pythagorean Theorem | Pythagorean triple

3. ANS:

obtuse

PTS: 1 DIF: L3 REF: 8-1 The Pythagorean Theorem and Its Converse
 OBJ: 8-1.1 To use the Pythagorean theorem and its converse
 NAT: CC G.SRT.4| CC G.SRT.8| N.5.e| G.3.d
 TOP: 8-1 Problem 5 Classifying a Triangle
 KEY: right triangle | obtuse triangle | acute triangle

4. ANS:

$$14\sqrt{2}$$

PTS: 1 DIF: L3 REF: 8-2 Special Right Triangles
 OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles
 NAT: CC G.SRT.8 TOP: 8-2 Problem 2 Finding the Length of a Leg
 KEY: special right triangles | hypotenuse | leg

5. ANS:

22 m

PTS: 1 DIF: L4 REF: 8-2 Special Right Triangles
 OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles
 NAT: CC G.SRT.8 TOP: 8-2 Problem 3 Finding Distance KEY: special right triangles | diagonal

6. ANS:

$$7\sqrt{3}$$

PTS: 1 DIF: L2 REF: 8-2 Special Right Triangles
 OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles
 NAT: CC G.SRT.8 TOP: 8-2 Problem 4 Using the Length of One Side
 KEY: special right triangles | leg | hypotenuse

7. ANS:

$$x = 13\sqrt{3}, y = 26$$

PTS: 1 DIF: L3 REF: 8-2 Special Right Triangles

OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles

NAT: CC G.SRT.8 TOP: 8-2 Problem 4 Using the Length of One Side

KEY: special right triangles | leg | hypotenuse

8. ANS:

$$84.9 \text{ in.}^2$$

PTS: 1 DIF: L2 REF: 8-2 Special Right Triangles

OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles

NAT: CC G.SRT.8 TOP: 8-2 Problem 5 Applying the 30?-60?-90? Triangle Theorem

KEY: area of a triangle | word problem | problem solving

9. ANS:

$$21.7 \text{ cm}^2$$

PTS: 1 DIF: L3 REF: 8-2 Special Right Triangles

OBJ: 8-2.1 To use the properties of 45-45-90 and 30-60-90 triangles

NAT: CC G.SRT.8 TOP: 8-2 Problem 5 Applying the 30?-60?-90? Triangle Theorem

KEY: rhombus | word problem | problem solving

10. ANS:

$$79.38^\circ$$

PTS: 1 DIF: L3 REF: 8-3 Trigonometry

OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles

NAT: CC G.SRT.7 | CC G.SRT.8 | CC G.MG.1

TOP: 8-3 Problem 3 Using Inverses KEY: cosine

11. ANS:

$$\sin A = \frac{48}{50}, \cos A = \frac{14}{50}$$

PTS: 1 DIF: L2 REF: 8-3 Trigonometry

OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles

NAT: CC G.SRT.7 | CC G.SRT.8 | CC G.MG.1

TOP: 8-3 Problem 1 Writing Trigonometric Ratios KEY: sine | cosine

12. ANS:

$$24.7$$

PTS: 1 DIF: L2 REF: 8-3 Trigonometry

OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles

NAT: CC G.SRT.7 | CC G.SRT.8 | CC G.MG.1

TOP: 8-3 Problem 2 Using a Trigonometric Ratio to Find Distance

KEY: tangent

13. ANS:
10.3
- PTS: 1 DIF: L3 REF: 8-3 Trigonometry
OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles NAT: CC G.SRT.7| CC G.SRT.8| CC G.MG.1
TOP: 8-3 Problem 2 Using a Trigonometric Ratio to Find Distance
KEY: cosine
14. ANS:
43.3
- PTS: 1 DIF: L3 REF: 8-3 Trigonometry
OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles NAT: CC G.SRT.7| CC G.SRT.8| CC G.MG.1
TOP: 8-3 Problem 2 Using a Trigonometric Ratio to Find Distance
KEY: sine
15. ANS:
47
- PTS: 1 DIF: L3 REF: 8-3 Trigonometry
OBJ: 8-3.1 To use the sine, cosine, and tangent ratios to determine side lengths and angle measures in right triangles NAT: CC G.SRT.7| CC G.SRT.8| CC G.MG.1
TOP: 8-3 Problem 3 Using Inverses KEY: cosine
16. ANS:
22.4
- PTS: 1 DIF: L3 REF: 8-5 Law of Sines
OBJ: 8-5.1 To apply the Law of Sines NAT: CC G.SRT.10| CC G.SRT.11
TOP: 8-5 Problem 1 Using the Law of Sines (AAS) KEY: Law of Sines
17. ANS:
73.9°
- PTS: 1 DIF: L3 REF: 8-5 Law of Sines
OBJ: 8-5.1 To apply the Law of Sines NAT: CC G.SRT.10| CC G.SRT.11
TOP: 8-5 Problem 2 Using the Law of Sines (SSA) KEY: Law of Sines
18. ANS:
48
- PTS: 1 DIF: L3 REF: 8-6 Law of Cosines
OBJ: 8-6.1 To apply the Law of Cosines NAT: CC G.SRT.10| CC G.SRT.11
TOP: 8-6 Problem 1 Using the Law of Cosines (SAS) KEY: Law of Cosines
19. ANS:
36.9°
- PTS: 1 DIF: L3 REF: 8-6 Law of Cosines
OBJ: 8-6.1 To apply the Law of Cosines NAT: CC G.SRT.10| CC G.SRT.11
TOP: 8-6 Problem 2 Using the Law of Cosines (SSS) KEY: Law of Cosines

20. ANS:
 $T_{\langle 8,14 \rangle}(B)$
- PTS: 1 DIF: L3 REF: 9-1 Translations
 OBJ: 9-1.2 To find translation images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-1 Problem 4 Writing a Rule to Describe a Translation KEY: translation | preimage | image
21. ANS:
 $T_{\langle 6,5 \rangle}(ABCD)$
- PTS: 1 DIF: L3 REF: 9-1 Translations
 OBJ: 9-1.2 To find translation images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-1 Problem 4 Writing a Rule to Describe a Translation KEY: translation
22. ANS:
 $P'(4, -5), Q'(2, -7), R'(-1, -2)$
- PTS: 1 DIF: L3 REF: 9-2 Reflections
 OBJ: 9-2.1 To find reflection images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-2 Problem 1 Reflecting a Point Across a Line KEY: reflection | line of reflection
23. ANS:
 $(6, -4)$
- PTS: 1 DIF: L4 REF: 9-2 Reflections
 OBJ: 9-2.1 To find reflection images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-2 Problem 1 Reflecting a Point Across a Line KEY: reflection | line of reflection
24. ANS:
 P
- PTS: 1 DIF: L3 REF: 9-3 Rotations
 OBJ: 9-3.1 To draw and identify rotation images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-3 Problem 2 Drawing Rotations in a Coordinate Plane
 KEY: rotation | center of rotation | angle of rotation
25. ANS:
 \overline{OF}
- PTS: 1 DIF: L3 REF: 9-3 Rotations
 OBJ: 9-3.1 To draw and identify rotation images of figures
 NAT: CC G.CO.2| CC G.CO.4| CC G.CO.5| CC G.CO.6| G.2.b| G.2.c| G.2.d
 TOP: 9-3 Problem 2 Drawing Rotations in a Coordinate Plane
 KEY: rotation | center of rotation | angle of rotation

26. ANS:
 $(-5, -2)$
- PTS: 1 DIF: L4 REF: 9-4 Compositions of Isometries
 OBJ: 9-4.1 To find compositions of isometries, including glide reflections
 NAT: CC G.CO.2| CC G.CO.5| CC G.CO.6| G.2.d| G.2.g
 TOP: 9-4 Problem 3 Finding a Glide Reflection Image KEY: glide reflection | isometry
27. ANS:
 reduction;
 $n = \frac{1}{2}$
- PTS: 1 DIF: L3 REF: 9-6 Dilations
 OBJ: 9-6.1 To understand dilation images of figures NAT: CC G.CO.2| G.2.c| G.2.d
 TOP: 9-6 Problem 1 Finding a Scale Factor KEY: dilation | reduction | scale factor
28. ANS:
 15 feet
- PTS: 1 DIF: L3 REF: 9-6 Dilations
 OBJ: 9-6.1 To understand dilation images of figures NAT: CC G.CO.2| G.2.c| G.2.d
 TOP: 9-6 Problem 3 Using a Scale Factor to Find a Length
 KEY: dilation | enlargement | scale factor | word problem
29. ANS:
 $D_{(3,(2,-2))} \circ T_{\langle 4,-1 \rangle}$
- PTS: 1 DIF: L4 REF: 9-7 Similarity Transformations
 OBJ: 9-7.1 To identify similarity transformations and verify properties of similarity
 NAT: CC G.SRT.2| CC G.SRT.3 TOP: 9-7 Problem 2 Describing Transformations
 KEY: similar | similarity transformation | rigid motion
30. ANS:
 17.2 ft
- PTS: 1 DIF: L4 REF: 10-1 Areas of Parallelograms and Triangles
 OBJ: 10-1.1 To find the area of parallelograms and triangles
 NAT: CC G.GPE.7| CC G.MG.1| N.3.c| N.3.f| M.1.c| M.1.f| A.4.e
 TOP: 10-1 Problem 3 Finding the Area of a Triangle
 KEY: triangle | area | isosceles triangle | leg
31. ANS:
 $4\sqrt{3}$ units²
- PTS: 1 DIF: L4 REF: 10-1 Areas of Parallelograms and Triangles
 OBJ: 10-1.1 To find the area of parallelograms and triangles
 NAT: CC G.GPE.7| CC G.MG.1| N.3.c| N.3.f| M.1.c| M.1.f| A.4.e
 TOP: 10-1 Problem 3 Finding the Area of a Triangle KEY: area | triangle

32. ANS:
40 cm²
- PTS: 1 DIF: L3 REF: 10-2 Areas of Trapezoids, Rhombuses, and Kites
OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite NAT: CC G.MG.1
TOP: 10-2 Problem 1 Area of a Trapezoid KEY: area | trapezoid
33. ANS:
108 ft²
- PTS: 1 DIF: L3 REF: 10-2 Areas of Trapezoids, Rhombuses, and Kites
OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite NAT: CC G.MG.1
TOP: 10-2 Problem 3 Finding the Area of a Kite KEY: area | kite
34. ANS:
 $50\sqrt{3}$ units²
- PTS: 1 DIF: L3 REF: 10-2 Areas of Trapezoids, Rhombuses, and Kites
OBJ: 10-2.1 To find the area of a trapezoid, rhombus, or kite NAT: CC G.MG.1
TOP: 10-2 Problem 4 Finding the Area of a Rhombus KEY: rhombus | diagonal | area
35. ANS:
5.2 in.
- PTS: 1 DIF: L4 REF: 10-3 Areas of Regular Polygons
OBJ: 10-3.1 To find the area of a regular polygon
NAT: CC G.CO.13 | CC G.MG.1 | N.3.c | N.3.f | M.1.c | M.1.f | A.4.e
TOP: 10-3 Problem 2 Finding the Area of a Regular Polygon
KEY: regular polygon | hexagon | area | apothem | radius
36. ANS:
 $\frac{7}{2}$ and $\frac{49}{4}$
- PTS: 1 DIF: L3 REF: 10-4 Perimeters and Areas of Similar Figures
OBJ: 10-4.1 To find the perimeters and areas of similar polygons
NAT: CC G.GMD.3 | N.3.c | N.3.f | M.1.c | M.1.f | A.4.e
TOP: 10-4 Problem 1 Finding Ratios in Similar Figures KEY: perimeter | area | similar figures
37. ANS:
38 m²
- PTS: 1 DIF: L3 REF: 10-5 Trigonometry and Area
OBJ: 10-5.1 To find areas of regular polygons and triangles using trigonometry
NAT: CC G.SRT.9 | M.1.f TOP: 10-5 Problem 2 Finding Area
KEY: area of a regular polygon | area | regular polygon | cosine | sine | measure of central angle of a regular polygon

38. ANS:
153

PTS: 1 DIF: L3 REF: 10-6 Circles and Arcs

OBJ: 10-6.1 To find the measures of central angles and arcs

NAT: CC G.CO.1| CC G.C.1| CC G.C.2| CC G.C.5

TOP: 10-6 Problem 2 Finding the Measures of Arcs

KEY: major arc | measure of an arc | arc

39. ANS:
 2.5π cm

PTS: 1 DIF: L2 REF: 10-6 Circles and Arcs

OBJ: 10-6.2 To find the circumference and arc length

NAT: CC G.CO.1| CC G.C.1| CC G.C.2| CC G.C.5

TOP: 10-6 Problem 3 Finding a Distance

KEY: circumference | diameter

40. ANS:
 18π m

PTS: 1 DIF: L3 REF: 10-6 Circles and Arcs

OBJ: 10-6.2 To find the circumference and arc length

NAT: CC G.CO.1| CC G.C.1| CC G.C.2| CC G.C.5

TOP: 10-6 Problem 4 Finding Arc Length

KEY: arc | circumference

41. ANS:
 28.09π m²

PTS: 1 DIF: L3 REF: 10-7 Areas of Circles and Sectors

OBJ: 10-7.1 To find the areas of circles, sectors, and segments of circles

NAT: CC G.C.5 TOP: 10-7 Problem 1 Finding the Area of a Circle

KEY: area of a circle | radius

42. ANS:
 $(110.25\pi - 220.5)\text{ft}^2$

PTS: 1 DIF: L2 REF: 10-7 Areas of Circles and Sectors

OBJ: 10-7.1 To find the areas of circles, sectors, and segments of circles

NAT: CC G.C.5 TOP: 10-7 Problem 3 Finding the Area of a Segment of a Circle

KEY: sector | circle | area | central angle

43. ANS:
 $\frac{4}{7}$

PTS: 1 DIF: L4 REF: 10-8 Geometric Probability

OBJ: 10-8.1 To use segment and area models to find the probabilities of events

NAT: CC S.CP.1 TOP: 10-8 Problem 1 Using Segments to Find Probability

KEY: geometric probability | segment

44. ANS:

$$168\pi \text{ cm}^2$$

PTS: 1 DIF: L3 REF: 11-2 Surface Areas of Prisms and Cylinders

OBJ: 11-2.1 To find the surface area of a prism and a cylinder

NAT: CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-2 Problem 3 Finding Surface Area of a Cylinder

KEY: surface area of a cylinder | cylinder | surface area formulas | surface area

45. ANS: B PTS: 1 DIF: L3

REF: 11-3 Surface Areas of Pyramids and Cones

OBJ: 11-3.1 To find the surface area of a pyramid and a cone

NAT: CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-3 Problem 1 Finding the Surface Area of a Pyramid

KEY: surface area of a pyramid | surface area | surface area formulas | pyramid

46. ANS: C PTS: 1 DIF: L3

REF: 11-3 Surface Areas of Pyramids and Cones

OBJ: 11-3.1 To find the surface area of a pyramid and a cone

NAT: CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-3 Problem 3 Finding the Surface Area of a Cone

KEY: surface area of a cone | surface area formulas | surface area | cone

47. ANS: A PTS: 1 DIF: L3

REF: 11-4 Volumes of Prisms and Cylinders

OBJ: 11-4.1 To find the volume of a prism and the volume of a cylinder

NAT: CC G.GMD.1| CC G.GMD.2| CC G.GMD.3| CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-4 Problem 1 Finding the Volume of a Rectangular Prism

KEY: volume of a rectangular prism | volume formulas | volume | prism

48. ANS: B PTS: 1 DIF: L3

REF: 11-4 Volumes of Prisms and Cylinders

OBJ: 11-4.1 To find the volume of a prism and the volume of a cylinder

NAT: CC G.GMD.1| CC G.GMD.2| CC G.GMD.3| CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-4 Problem 2 Finding the Volume of a Triangular Prism

KEY: volume of a triangular prism | volume formulas | volume | prism

49. ANS: D PTS: 1 DIF: L2

REF: 11-5 Volumes of Pyramids and Cones

OBJ: 11-5.1 To find the volume of a pyramid and of a cone

NAT: CC G.GMD.3| CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-5 Problem 3 Finding the Volume of a Cone

KEY: volume of a cone | cone | volume formulas | volume

50. ANS:

$$524 \text{ cm}^3$$

PTS: 1 DIF: L3 REF: 11-6 Surface Areas and Volumes of Spheres

OBJ: 11-6.1 To find the surface area and volume of a sphere

NAT: CC G.GMD.3| CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f

TOP: 11-6 Problem 3 Finding the Volume of a Sphere

KEY: volume of a sphere | sphere | volume formulas | volume

51. ANS:

$$100\pi \text{ cm}^2$$

PTS: 1 DIF: L3 REF: 11-6 Surface Areas and Volumes of Spheres
 OBJ: 11-6.1 To find the surface area and volume of a sphere
 NAT: CC G.GMD.3| CC G.MG.1| N.3.c| N.3.f| N.5.e| M.1.h| A.4.f
 TOP: 11-6 Problem 1 Finding the Surface Area of a Sphere
 KEY: surface area of a sphere | surface area formulas | surface area | sphere

52. ANS:

9 : 14

PTS: 1 DIF: L3 REF: 11-7 Areas and Volumes of Similar Solids
 OBJ: 11-7.1 To compare and find the areas and volumes of similar solids
 NAT: CC G.MG.1| CC G.MG.2| G.1.f| N.3.f| N.5.e| M.1.b| M.1.h
 TOP: 11-7 Problem 2 Finding the Scale Factor
 KEY: similarity ratio | volumes of similar solids

53. ANS:

yes; $\frac{1}{2}$

PTS: 1 DIF: L4 REF: 11-7 Areas and Volumes of Similar Solids
 OBJ: 11-7.1 To compare and find the areas and volumes of similar solids
 NAT: CC G.MG.1| CC G.MG.2| G.1.f| N.3.f| N.5.e| M.1.b| M.1.h
 TOP: 11-7 Problem 1 Identifying Similar Solids
 KEY: similar solids | similarity ratio | cylinder

54. ANS:

70

PTS: 1 DIF: L3 REF: 12-1 Tangent Lines
 OBJ: 12-1.1 To use properties of a tangent to a circle NAT: CC G.C.2| G.3.h
 TOP: 12-1 Problem 5 Circles Inscribed in Polygons
 KEY: properties of tangents | tangent to a circle | triangle

55. ANS:

35

PTS: 1 DIF: L2 REF: 12-1 Tangent Lines
 OBJ: 12-1.1 To use properties of a tangent to a circle NAT: CC G.C.2| G.3.h
 TOP: 12-1 Problem 2 Finding Distance
 KEY: tangent to a circle | point of tangency | properties of tangents | Pythagorean Theorem

56. ANS:

227

PTS: 1 DIF: L2 REF: 12-2 Chords and Arcs
 OBJ: 12-2.1 To use congruent chords, arcs, and central angles NAT: CC G.C.2| G.3.h
 TOP: 12-2 Problem 4 Finding Measures in a Circle
 KEY: arc | central angle | congruent arcs | arc measure | arc addition | diameter

57. ANS:
11.7

PTS: 1 DIF: L2 REF: 12-2 Chords and Arcs
OBJ: 12-2.2 To use perpendicular bisectors to chords NAT: CC G.C.2| G.3.h
TOP: 12-2 Problem 3 Using Diameters and Chords
KEY: bisected chords | circle | perpendicular | perpendicular bisector | Pythagorean Theorem | chord

58. ANS:
76.5

PTS: 1 DIF: L3 REF: 12-3 Inscribed Angles
OBJ: 12-3.2 To find the measure of an angle formed by a tangent and a chord
NAT: CC G.C.2| CC G.C.3| CC G.C.4| G.3.h TOP: 12-3 Problem 3 Using Arc Measure
KEY: circle | inscribed angle | tangent-chord angle | intercepted arc | arc measure | angle measure

59. ANS:
62

PTS: 1 DIF: L2 REF: 12-3 Inscribed Angles
OBJ: 12-3.1 To find the measure of an inscribed angle
NAT: CC G.C.2| CC G.C.3| CC G.C.4| G.3.h
TOP: 12-3 Problem 2 Using Corollaries to Find Angle Measures
KEY: circle | inscribed angle | intercepted arc | inscribed angle-arc relationship

60. ANS:
35

PTS: 1 DIF: L3 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.2 To find the lengths of segments associated with circles
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 3 Finding Segment Lengths
KEY: circle | intersection outside the circle | secant

61. ANS: A PTS: 1 DIF: L3

REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.2 To find the lengths of segments associated with circles
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 3 Finding Segment Lengths
KEY: segment length | tangent | secant

62. ANS:
12.5

PTS: 1 DIF: L3 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.2 To find the lengths of segments associated with circles
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 3 Finding Segment Lengths
KEY: circle | chord | intersection inside the circle

63. ANS:
9.3

PTS: 1 DIF: L3 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.2 To find the lengths of segments associated with circles
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 3 Finding Segment Lengths
KEY: circle | intersection outside the circle | secant | tangent

64. ANS:
32.5

PTS: 1 DIF: L3 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.1 To find measures of angles formed by chords, secants, and tangents
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 1 Finding Angle Measures
KEY: circle | chord | angle measure | arc measure | intersection on the circle | intersection outside the circle | secant

65. ANS:
26.5

PTS: 1 DIF: L3 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.1 To find measures of angles formed by chords, secants, and tangents
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 1 Finding Angle Measures
KEY: circle | secant | angle measure | arc measure | intersection inside the circle

66. ANS:
152

PTS: 1 DIF: L2 REF: 12-4 Angle Measures and Segment Lengths
OBJ: 12-4.1 To find measures of angles formed by chords, secants, and tangents
NAT: CC G.C.2| G.3.h TOP: 12-4 Problem 2 Finding an Arc Measure
KEY: circle | angle measure | word problem | arc measure | intersection outside the circle

67. ANS:

$$(x - 3)^2 + (y - 3)^2 = 68$$

PTS: 1 DIF: L3 REF: 12-5 Circles in the Coordinate Plane
OBJ: 12-5.2 To find the center and radius of a circle NAT: CC G.GPE.1| G.3.h| G.4.a| G.4.f
TOP: 12-5 Problem 2 Using the Center and a Point on a Circle
KEY: equation of a circle | center | radius | point on the circle | algebra

68. ANS:

$$(x - 4)^2 + (y - 10)^2 = 100$$

PTS: 1 DIF: L3 REF: 12-5 Circles in the Coordinate Plane
OBJ: 12-5.1 To write the equation of a circle NAT: CC G.GPE.1| G.3.h| G.4.a| G.4.f
TOP: 12-5 Problem 1 Writing the Equation of a Circle KEY: equation of a circle | center | radius

69. ANS: D

PTS: 1 DIF: L2
REF: 13-2 Probability Distributions and Frequency Tables
OBJ: 13-2.1 To make and use frequency tables and probability distributions
NAT: CC S.CP.4| CC S.CP.5 TOP: 13-2 Problem 1 Finding Relative Frequencies
KEY: frequency | frequency table

70. ANS:
84

PTS: 1 DIF: L3 REF: 13-3 Permutations and Combinations
OBJ: 13-3.1 To use permutations and combinations to solve problems
NAT: CC S.CP.9 TOP: 13-3 Problem 4 Using the Combination Formula
KEY: combination | n factorial

71. ANS:
39,600

PTS: 1 DIF: L3 REF: 13-3 Permutations and Combinations
OBJ: 13-3.1 To use permutations and combinations to solve problems
NAT: CC S.CP.9 TOP: 13-3 Problem 2 Finding the Number of Permutations
KEY: permutation | Fundamental Counting Principle | n factorial

72. ANS:
72

PTS: 1 DIF: L2 REF: 13-3 Permutations and Combinations
OBJ: 13-3.1 To use permutations and combinations to solve problems
NAT: CC S.CP.9 TOP: 13-3 Problem 3 Finding a Permutations
KEY: permutation | Fundamental Counting Principle | n factorial

73. ANS:
0.165

PTS: 1 DIF: L3 REF: 13-5 Probability Models
OBJ: 13-5.1 To construct and use probability models NAT: CC S.CP.4
TOP: 13-5 Problem 1 Using a Two-way Frequency Table
KEY: two-way frequency table | conditional probability

74. ANS:
50%

PTS: 1 DIF: L3 REF: 13-6 Conditional Probability Formulas
OBJ: 13-6.1 To understand and calculate conditional probabilities
NAT: CC S.CP.2| CC S.CP.3| CC S.CP.5| CC S.CP.6
TOP: 13-6 Problem 1 Using Conditional Frequencies

75. ANS:
3, 22, 12

PTS: 1 DIF: L2 REF: 13-7 Modeling Randomness
OBJ: 13-7.1 To understand random numbers NAT: CC S.MD.6| CC S.MD.7
TOP: 13-7 Problem 1 Making Random Selections KEY: random number generator