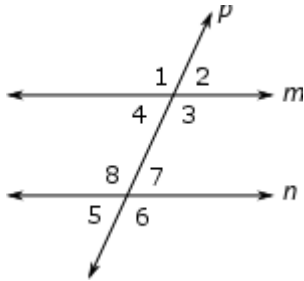
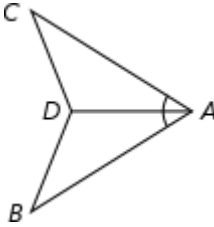


Geometry EOC Review

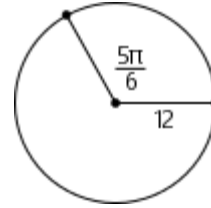
Instructions: Answer each question. Show all necessary work for credit.

<p>1. Find the coordinates of the midpoint of a line segment with endpoints $(-3,4)$ and $(7,9)$.</p> <p style="text-align: right;">G-GPE.B.4</p>	<p>4. A line segment with endpoints $(-4,5)$ and $(-2,2)$ is reflected about the y-axis. Write the coordinates of the endpoints after the segment has been reflected.</p> <p style="text-align: right;">G-CO.B.6</p>
<p>2. A circle has the equation $(x-2)^2 + y^2 = 5$. What are the coordinates of the circle's center?</p> <p style="text-align: right;">G-GPE.A.1</p>	<p>5. In the diagram below, lines m and n are parallel and line p is a transversal. Name an angle that forms a pair of corresponding angles with angle 8.</p> <div style="text-align: center;">  </div> <p style="text-align: right;">G-CO.C.9</p>
<p>3. What additional information is needed to show that triangle ACD is congruent to triangle ABD by the SAS postulate?</p> <div style="text-align: center;">  </div> <p style="text-align: right;">G-CO.B.8</p>	<p>6. The area of a circle is 196π square inches. What is the exact length of the circle's radius?</p> <p style="text-align: right;">G-GMD.A.1</p>

7. Points F , G , and H are collinear such that $FG : FH = \frac{2}{3}$. If a directed line segment begins at $F(-3, -2)$ and ends at $H(-3, 7)$, find the coordinates of point G .

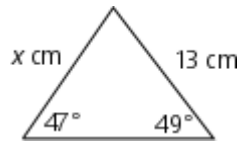
G-GPE.B.6

9. The circle below has a radius of 12 units. Find the area of the circular sector with a central angle of $\frac{5\pi}{6}$ radians.



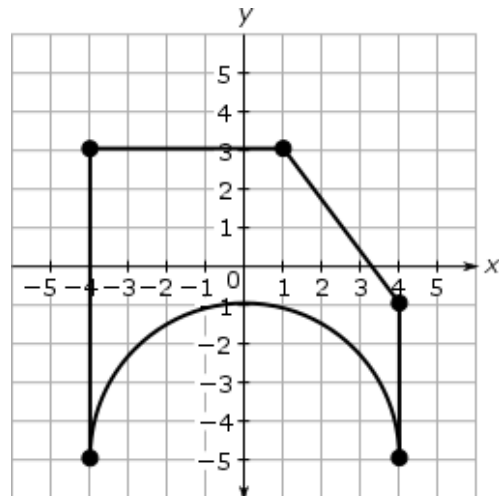
G-C.B.5

8. Find the value of x in the triangle below. Round your answer to the nearest tenth of a centimeter.



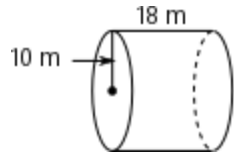
G-SRT.D.11

10. Find the area of the figure below accurate to one decimal place.



G-GPE.B.7

11. Find the exact volume of the cylinder below in cubic meters.

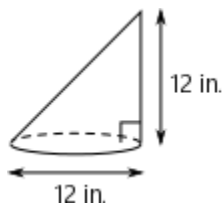


G-GMD.A.3

14. Find the population density of a city with an area of 598 square miles and a population of 21,500 people.

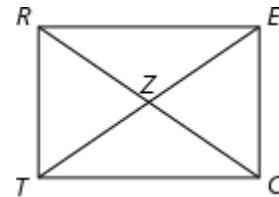
G-MG.A.2

12. Use Cavalieri's Principle to find the volume of the cone below accurate to one decimal place.



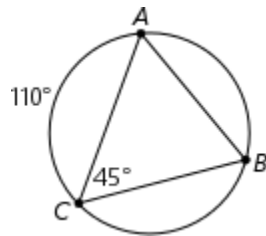
G-GMD.A.1

15. In rectangle $RECT$ below, $m\angle RZT = 48$. Find $m\angle TCZ$.



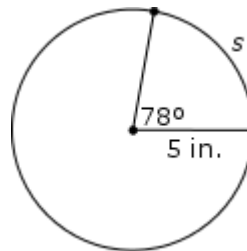
G-SRT.B.5

13. Find the measure of minor arc BC .



G-C.A.2

16. Find the exact length of arc s .



G-C.B.5

17. Chris is trying to prove that triangle LMN is congruent to triangle PQR . He is given that $\overline{LN} \cong \overline{RP}$ and $\angle MNL \cong \angle QRP$. He wants to use the ASA Postulate to prove that the triangles are congruent. What additional information must he have?

G-CO.B.8

19. Line segment \overline{MN} has endpoints $M(4,-5)$ and $N(-3,1)$. Find MN .

G-GPE.B.4

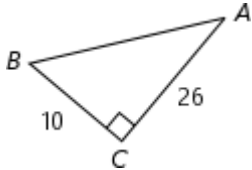
18. Construct an angle bisector of the angle below.



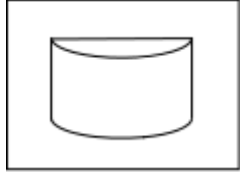
G-CO.D.12

20. A cone has a volume of $1,440\pi$ cubic centimeters and a height of 30 centimeters. What is the diameter of the cone's base?

G-GMD.A.3

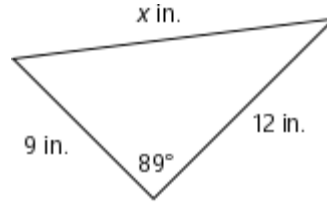
<p>21. A sphere has a diameter of 24 inches. Find the volume of the sphere. Round your answer to the nearest tenth of an inch.</p> <p style="text-align: center;">G-GMD.A.3</p>	<p>24. Convert $\frac{3\pi}{8}$ radians to degree measure.</p> <p style="text-align: center;">G-C.B.5</p>
<p>22. Find $\sin A$.</p> <div style="text-align: center;">  </div> <p style="text-align: center;">G-SRT.C.8</p>	<p>25. What is the point of concurrency of the three perpendicular bisectors of a triangle called?</p> <p style="text-align: center;">G-CO.C.10</p>
<p>23. A line segment with endpoints $(-1,2)$ and $(4,8)$ is rotated 90° about the origin. Write the coordinates of the endpoints after the segment has been rotated.</p> <p style="text-align: center;">G-CO.B.6</p>	<p>26. A circle has the equation below. Find the circle's radius.</p> $(x + 3)^2 + (y - 2)^2 = 16$ <p style="text-align: center;">G-GPE.A.1</p>

27. A plane is passed through a cylinder perpendicular to the cylinder's bases. What is the figure formed by the intersection of the plane and cylinder?



G-GMD.B.4

29. Find the value of x in the triangle below to the nearest tenth of an inch.

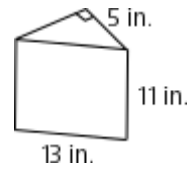


G-SRT.D.11

28. A circle with a radius of 8 units and a center of $(-7,5)$ is dilated by a factor of 2 about the origin. What is the equation of the dilated circle?

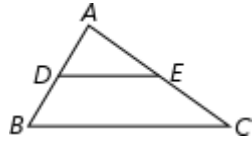
G-GPE.A.1

30. Find the volume of the triangular-based prism below in cubic inches.



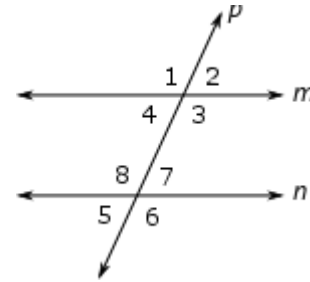
G-GMD.A.3

31. In triangle ABC below, \overline{DE} is a midsegment. If $BC = 13$, then $DE = ?$



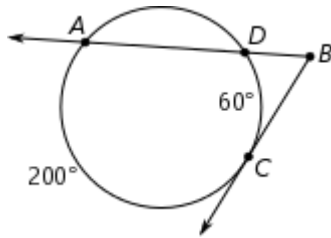
G-SRT.B.4

34. In the diagram below, lines m and n are parallel and line p is a transversal. Name an angle that forms a pair of consecutive interior angles with angle 7.



G-CO.C.9

32. Find $m\angle ABC$.



G-C.A.2

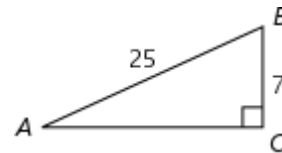
35. A parabola has directrix $x = -2$ and focus $(2, 0)$. Write an equation of the parabola.

G-GPE.A.2

33. What is the point of concurrency of the three angle bisectors of a triangle called?

G-CO.C.10

36. Find $\tan B$.



G-SRT.C.8

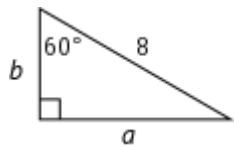
37. Line \overline{AB} passes through the points $(-5, -2)$ and $(-1, 1)$. Find an equation of a line parallel to \overline{AB} that passes through $(3, -4)$.

G-GPE.B.5

39. Find an equation of a line in slope-intercept form perpendicular to the line $2x - y = 3$ and passing through $(-1, 3)$.

G-GPE.B.5

38. Find the values of a and b in the diagram below.



$a =$

$b =$

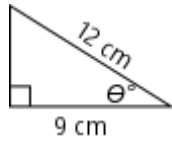
G-SRT.C.6

40. Construct a perpendicular bisector of the line segment below.



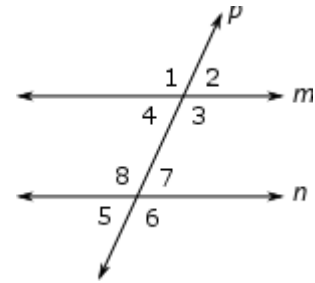
G-CO.D.12

41. Find the angle value of θ in the triangle below. Round your answer to the nearest whole degree.



F-TF.B.7

44. In the diagram below, lines m and n are parallel and line p is a transversal. Name all angles that are congruent to angle 3.



G-CO.C.9

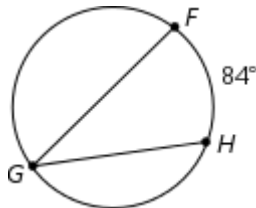
42. Convert 800° to radian measure.

G-C.B.5

45. What is the point of concurrency of the three altitudes of a triangle called?

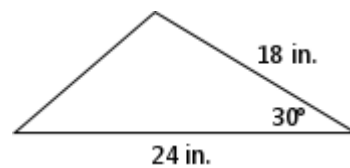
G-CO.C.10

43. If angle FGH is an inscribed angle and the measure of minor arc FH is 84° , find $m\angle FGH$.



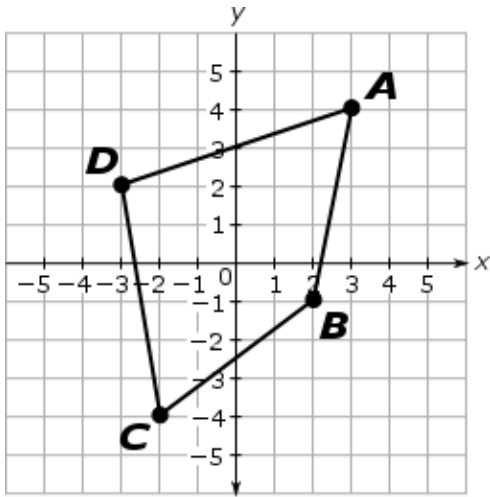
G-C.A.2

46. Find the area of the triangle below.



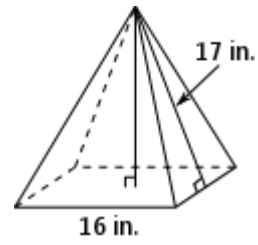
G-SRT.D.9

47. Find the area of polygon $ABCD$ below accurate to one decimal place.



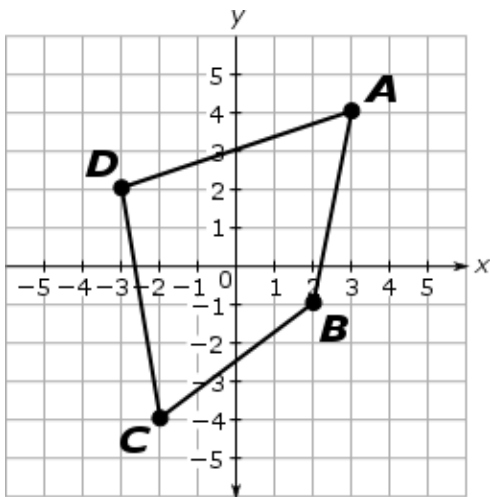
G-GPE.B.7

49. Find the volume of the pyramid below in cubic inches if it has a square base and a slant height of 34 inches.



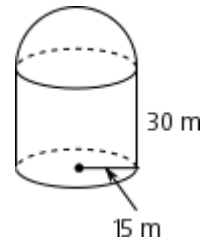
G-GMD.A.3

48. Find the perimeter of polygon $ABCD$ below accurate to the nearest tenth of a unit.

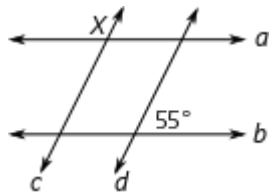
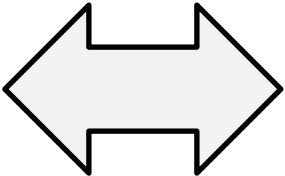
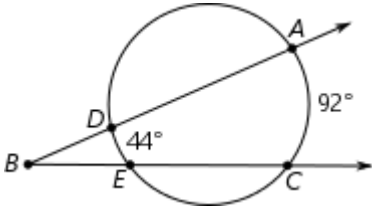


G-GPE.B.7

50. A cylindrical tank of radius 15 meters has a hemispherical cap of the same radius. Find the volume of the entire figure to the nearest tenth of a meter.



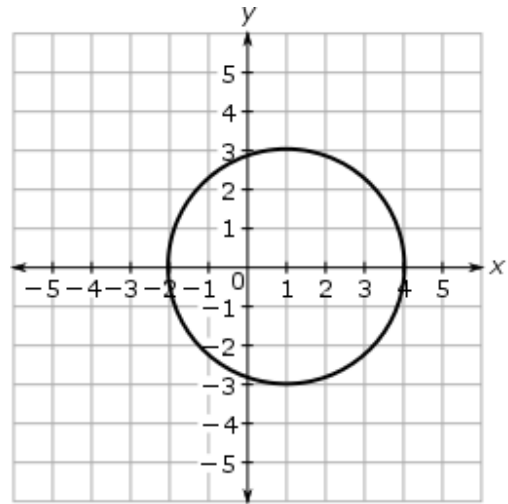
G-GMD.A.3

<p>51. A square has a side of length 6 inches. What is the exact length of one of the square's diagonals?</p> <p>G-SRT.C.6</p>	<p>54. In the diagram below, lines a and b are parallel, and lines c and d are parallel. Find the degree measure of angle X.</p>  <p>G-CO.C.9</p>
<p>52. A 40-foot-tall tree casts a shadow of 15 feet. A nearby telephone pole is 25 feet tall. How long will its shadow be?</p> <p>G-SRT.B.5</p>	<p>55. Draw all lines of symmetry for the figure below.</p>  <p>G-CO.A.3</p>
<p>53. In right triangle ABC, angle C is a right angle. If $\sin A = \frac{3}{5}$ and $\cos A = \frac{4}{5}$, find $\tan B$.</p> <p>G-SRT.C.8</p>	<p>56. Find $m\angle ABC$.</p>  <p>G-C.A.2</p>

57. Storage containers are to be manufactured in the shape of a rectangular-based prism. If the base of the container is to be 72 square inches and the volume is to be between 570 and 580 cubic inches, find a set of integer dimensions for the length, width, and the height of the box that satisfy the design requirements.

G-MG.A.3

59. Write an equation of the circle below.



G-GPE.A.1

58. In the figure below, points A , B , C , and D are collinear. If $AB = CD = x$, $BC = x + 4$, and $AD = 22$, then $BD = ?$



G-CO.C.9

60. Lisa is using the statements below to prove that $\angle 1$ and $\angle 2$ are supplementary given that they form a linear pair.


1. $\angle 1$ and $\angle 2$ form a linear pair.
2. $\angle 1$ and $\angle 2$ form a straight line.
3. $m\angle 1 + m\angle 2 = 180$.
4. $\angle 1$ and $\angle 2$ are supplementary.

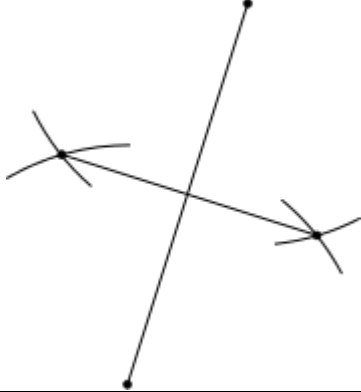
What is the reason for statement 3?

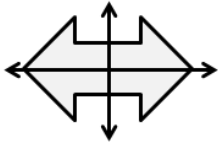
G-CO.C.9

Answers

1.	$\left(2, \frac{13}{2}\right)$
2.	(2,0)
3.	$\overline{AC} \cong \overline{AB}$
4.	(4,5) and (2,2)
5.	$\angle 1$
6.	14 inches
7.	(-3,4)
8.	13.4 centimeters
9.	$60\pi u^2$
10.	$32.9 u^2$
11.	$1,800\pi m^3$
12.	$452.4 in^3$
13.	160°
14.	about 36 people per square mile
15.	24°
16.	$\frac{13\pi}{6}$ in.
17.	$\angle MLN \cong \angle QPR$

18.	
19.	$\sqrt{85}$
20.	24 centimeters
21.	$7,234.6 \text{ in}^3$
22.	$\frac{5\sqrt{194}}{194}$
23.	$(-2, -1)$ and $(-8, 4)$
24.	67.5°
25.	circumcenter
26.	4
27.	rectangle
28.	$(x + 14)^2 + (y - 10)^2 = 256$
29.	14.9 inches
30.	330 in^3
31.	6.5
32.	70°

33.	incenter
34.	$\angle 3$
35.	$y^2 = 8x$
36.	$\frac{24}{7}$
37.	$y = \frac{3}{4}x - \frac{25}{4}$
38.	$a = 4\sqrt{3}, b = 4$
39.	$y = -\frac{1}{2}x + \frac{5}{2}$
40.	
41.	41°
42.	$\frac{40\pi}{9}$
43.	42°
44.	$\angle 1, \angle 6, \angle 8$
45.	orthocenter
46.	108 in^2

47.	$27.5 u^2$
48.	22.5 units
49.	$1,280 \text{ in}^3$
50.	$28,260.0 \text{ m}^3$
51.	$6\sqrt{2} \text{ in.}$
52.	$\frac{75}{8}$ feet
53.	$\frac{3}{4}$
54.	125°
55.	
56.	24°
57.	sample answer: $6 \times 12 \times 8$
58.	16
59.	$(x-1)^2 + y^2 = 9$
60.	Angle Addition Postulate