Name: Original Class: _____ Date: _____ ID: A

Advanced Geometry Chapter 11 Test (11.1-11.8, skip 11.4)

1. If a circle has a diameter of 7 inches, what is the circumference rounded to the nearest whole number? Use $\pi \approx 3.14$.
   a. 22 in.
   b. 44 in.
   c. 38 in.
   d. 11 in.

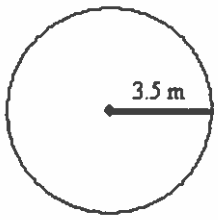
2. A circle has a circumference of 50 meters. Find its diameter.
   a. 12.5 m
   b. 15.92 m
   c. 7.96 m
   d. 25 m

3. For a circle of radius 5 feet, find the length of an arc s with a measure of 28°.
   a. $s = \frac{7}{9}\pi$ feet
   b. $s = \frac{7}{18}\pi$ feet
   c. $s = \frac{1}{36}\pi$ feet
   d. $s = 140\pi$ feet

4. An automobile has 20-inch diameter wheels. If the wheels revolved three times after the brakes were applied, the stopping distance was approximately _____.
   a. 15.7 ft
   b. 7.85 ft
   c. 157 ft
   d. 26.2 ft

Find the area:

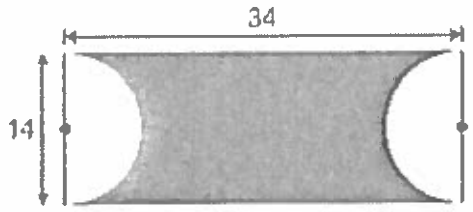
5.



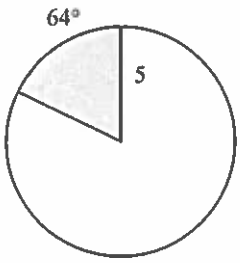
   a. 38.465 m^2
   b. 9.61625 m^2
   c. 21.98 m^2
   d. 153.86 m^2

Name: _____ ID: A

6. Find the area of the shaded region. (Assume that the ends of the figure are semicircles.)



7. Find the area of the shaded sector in terms of π.



8. Find the area of a regular octagon with side length 9 cm.

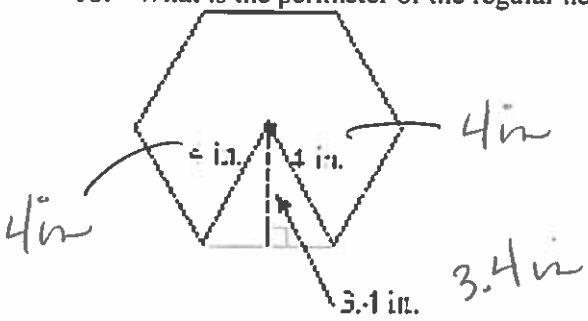
a. $782.2\ cm^2$
b. $391.1\ cm^2$
c. $423.3\ cm^2$
d. $374.4\ cm^2$

9. A regular hexagon has an apothem of 2 and a side length of $\frac{4\sqrt{3}}{3}$. Its area is _____.

a. $8\sqrt{3}$ sq. units
b. $4\sqrt{3}$ sq.units
c. $\frac{16\pi}{3}$ sq. units
d. 4π sq. units

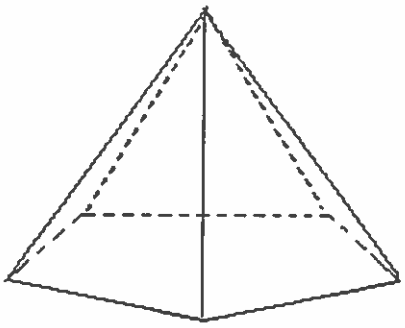
Name: _____ ID: A

10. What is the perimeter of the regular hexagon to the nearest inch?



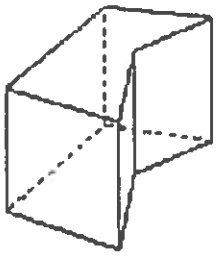
a. 12 inches
b. 24 inches
c. 41 inches
d. 48 inches

11. Find the number of vertices, faces, and edges for the figure below.



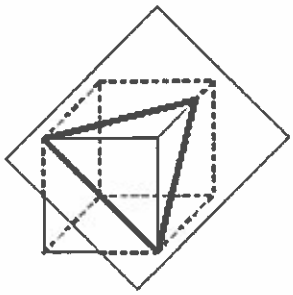
a. 6 vertices, 6 faces, 10 edges
b. 5 vertices, 6 faces, 10 edges
c. 7 vertices, 7 faces, 11 edges
d. 10 vertices, 6 faces, 6 edges

12. The solid figure below is best described as _____.



a. a nonconvex polyhedron
b. a regular polyhedron
c. a semiregular polyhedron
d. a polygon

13. Describe the cross section.



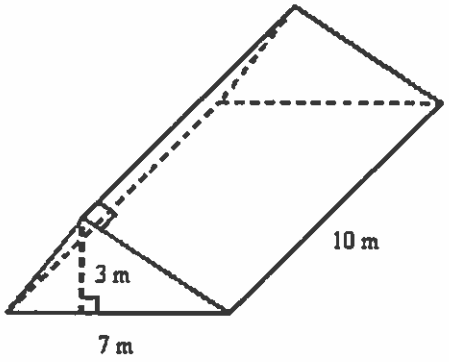
a. hexagon
b. pyramid
c. rectangle
d. triangle

14. According to Euler's Theorem, the number of faces (F), vertices (V), and edges (E) of a polyhedron is related by the formula _____.

a. $F + V = E + 2$
b. $E + V = F + 2$
c. $F + E = V + 2$
d. $F + V = E - 2$

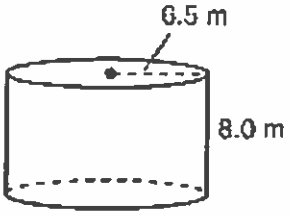
Name: _____ ID: A

15. Find the volume of the right triangular prism.



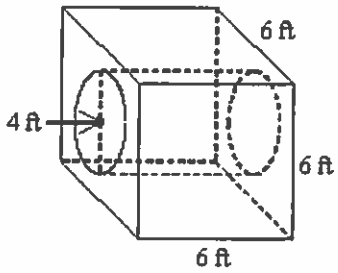
a. 210 m^3
b. 31 m^3
c. 105 m^3
d. 20.5 m^3

16. The volume of the right circular cylinder is about _____.



a. 265.5 m^3
b. 326.7 m^3
c. 1036.9 m^3
d. 1061.9 m^3

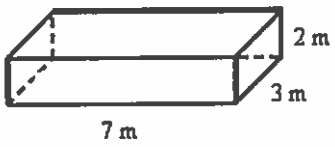
17. A concrete block has a cylindrical hole 4 feet in diameter drilled through it to allow a pipe to pass through. Use 3.14 as an approximation for π and round your answer to the nearest tenth.



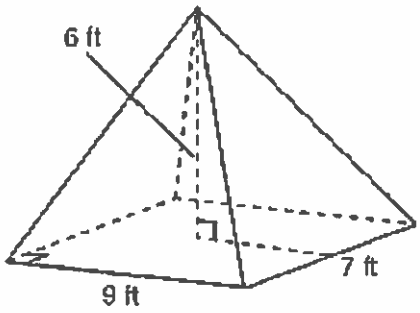
How many cubic feet of concrete are left in the block?

a. 90.0 cubic feet
b. 85.4 cubic feet
c. 140.6 cubic feet
d. 203.4 cubic feet

18. Find the volume of the rectangular prism.

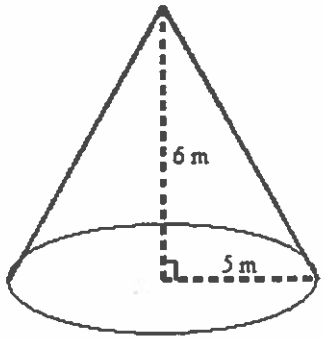


19. The volume of the pyramid below is _____.



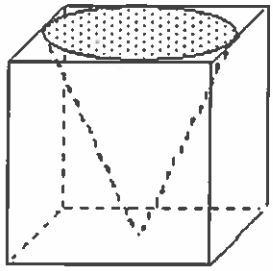
a. 126 ft^3
b. 195π ft^3
c. 126π ft^3
d. 378 ft^3

20. Calculate the volume of the cone. Use $\pi \approx 3.14$.



a. 26.17 m^3
b. 50 m^3
c. 157 m^3
d. 471 m^3

21. A machinist drilled a conical hole into a cube of metal as shown. If the cube has sides of length 8 cm, what is the volume of the metal after the hole is drilled? Use $\pi \approx 3.14$ and round to the nearest tenth.

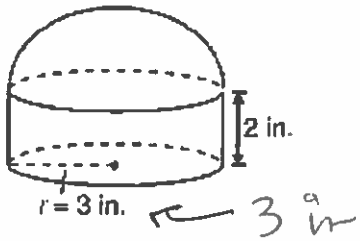


a. $378.0\,cm^3$
b. $333.4\,cm^3$
c. $351.2\,cm^3$
d. $333.5\,cm^3$

22. What is the surface area of a sphere with radius 4.7 feet?
a. $434.9\,ft^2$
b. $92.5\,ft^2$
c. $69.4\,ft^2$
d. $277.6\,ft^2$

23. What is the volume of a sphere with diameter 9.4 feet?
a. $434.9\,ft^3$
b. $277.6\,ft^3$
c. $69.4\,ft^3$
d. $92.5\,ft^3$

24. The top of the cylindrical container shown has the shape of a hemisphere. The total volume of the container is _____.



a. 18π in.^{3}
b. 36π in.^{3}
c. 36 in.^{3}
d. 27π in.^{3}

25. Find the diameter of a sphere that has a surface area of 169π in^2.

Advanced Geometry Chapter 11 Test (11.1-11.8, skip 11.4)
Answer Section

1. A
2. B
3. A
4. A
5. A
6. ≈ 322 sq. units
7. $\frac{40}{9}\pi$ 13.96
8. B
9. A
10. B
11. A
12. A
13. D
14. A
15. C
16. D
17. C
18. $42\,m^3$
19. A
20. C
21. A
22. D
23. A
24. B
25. 13 in.

Name: _____ Class: _____ Date: _____ ID: B

Advanced Geometry Chapter 11 Test (11.1-11.8, skip 11.4)

1. If a circle has a diameter of 9 inches, what is the circumference rounded to the nearest whole number? Use $\pi \approx 3.14$.
   a. 14 in.
   c. 28 in.
   b. 64 in.
   d. 56 in.

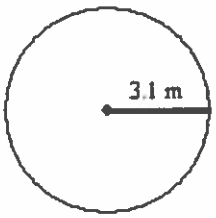
2. A circle has a circumference of 36 meters. Find its diameter.
   a. 9 m
   c. 18 m
   b. 11.46 m
   d. 5.73 m

3. For a circle of radius 9 feet, find the length of an arc s with a measure of 8°.
   a. $s = \frac{2}{5}\pi$ feet
   c. $s = 72\pi$ feet
   b. $s = \frac{1}{5}\pi$ feet
   d. $s = \frac{1}{20}\pi$ feet

4. An automobile has 20-inch diameter wheels. If the wheels revolved three times after the brakes were applied, the stopping distance was approximately _____.
   a. 157 ft
   c. 26.2 ft
   b. 7.85 ft
   d. 15.7 ft

Find the area:

5.



   a. 30.1754 m^2
   b. 7.54385 m^2
   c. 120.702 m^2
   d. 19.468 m^2

Name: _____ Class: _____ Date: _____ ID: B

Advanced Geometry Chapter 11 Test (11.1-11.8, skip 11.4)

1. If a circle has a diameter of 9 inches, what is the circumference rounded to the nearest whole number? Use $\pi \approx 3.14$.
   a. 14 in.
   b. 64 in.
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   d. 5.73 m

3. For a circle of radius 9 feet, find the length of an arc s with a measure of 8°.
   a. $s = \frac{2}{5}\pi$ feet
   b. $s = \frac{1}{5}\pi$ feet
   c. $s = 72\pi$ feet
   d. $s = \frac{1}{20}\pi$ feet

4. An automobile has 20-inch diameter wheels. If the wheels revolved three times after the brakes were applied, the stopping distance was approximately _____.
   a. 157 ft
   b. 7.85 ft
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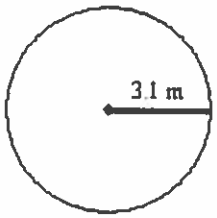
   d. 15.7 ft

Find the area:

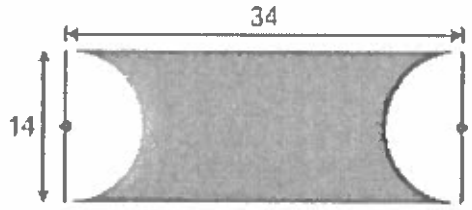
5.



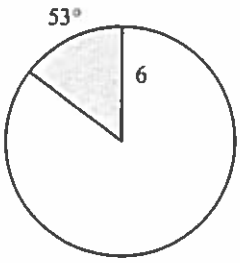
   a. 30.1754 m²
   b. 7.54385 m²
   c. 120.702 m²
   d. 19.468 m²

Name: _____ ID: B

6. Find the area of the shaded region. (Assume that the ends of the figure are semicircles.)



7. Find the area of the shaded sector in terms of π.



8. Find the area of a regular 11-gon with side length 3 cm.

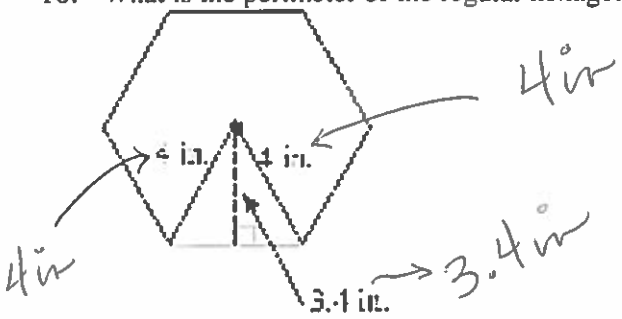
a. 168.6 cm^2
b. 84.3 cm^2
c. 67.6 cm^2
d. 87.8 cm^2

9. A regular hexagon has an apothem of 2 and a side length of $\frac{4\sqrt{3}}{3}$. Its area is _____.

a. 4π sq. units
b. $\frac{16\pi}{3}$ sq. units
c. $4\sqrt{3}$ sq.units
d. $8\sqrt{3}$ sq. units

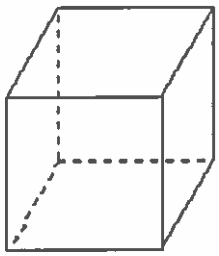
Name: _____ ID: B

10. What is the perimeter of the regular hexagon to the nearest inch?



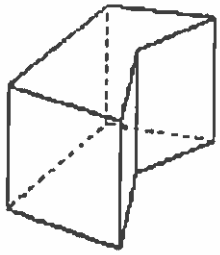
a. 12 inches
b. 41 inches
c. 24 inches
d. 48 inches

11. Find the number of vertices, faces, and edges for the figure below.



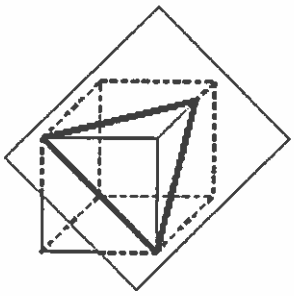
a. 12 vertices, 6 faces, 6 edges
b. 6 vertices, 8 faces, 12 edges
c. 9 vertices, 7 faces, 13 edges
d. 8 vertices, 6 faces, 12 edges

12. The solid figure below is best described as _____.



a. a nonconvex polyhedron
b. a semiregular polyhedron
c. a polygon
d. a regular polyhedron

13. Describe the cross section.



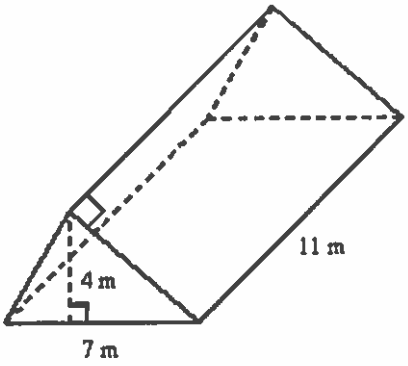
a. triangle
b. rectangle
c. hexagon
d. pyramid

14. According to Euler's Theorem, the number of faces (F), vertices (V), and edges (E) of a polyhedron is related by the formula _____.

a. $E + V = F + 2$
b. $F + E = V + 2$
c. $F + V = E - 2$
d. $F + V = E + 2$

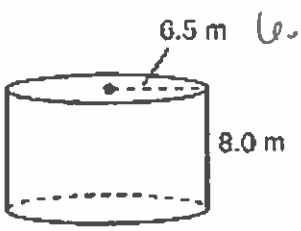
Name: _____ ID: B

15. Find the volume of the right triangular prism.



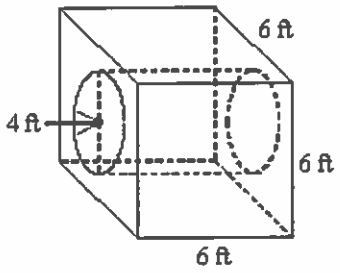
a. 308 m^3
b. 154 m^3
c. 25 m^3
d. 39 m^3

16. The volume of the right circular cylinder is about _____.



a. 1061.9 m^3
b. 265.5 m^3
c. 326.7 m^3
d. 1036.9 m^3

17. A concrete block has a cylindrical hole 4 feet in diameter drilled through it to allow a pipe to pass through. Use 3.14 as an approximation for π and round your answer to the nearest tenth.

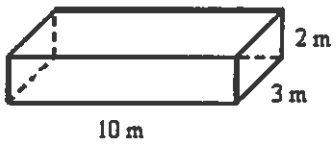


How many cubic feet of concrete are left in the block?

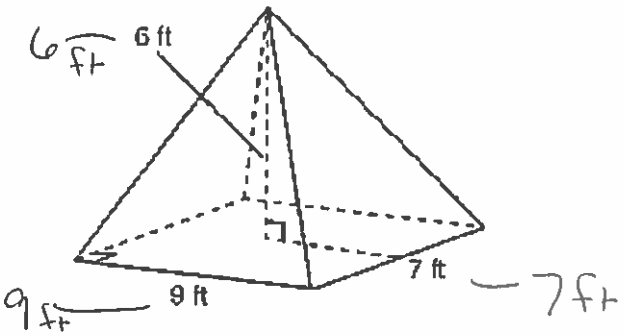
a. 140.6 cubic feet
b. 85.4 cubic feet
c. 90.0 cubic feet
d. 203.4 cubic feet

Name: _____ ID: B

18. Find the volume of the rectangular prism.

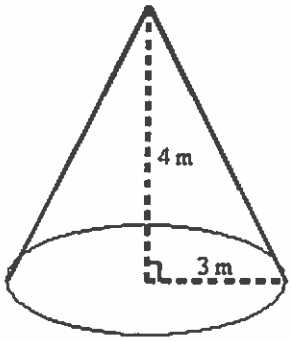


19. The volume of the pyramid below is _____.



a. 378 ft^3
b. 126 ft^3
c. 195π ft^3
d. 126π ft^3

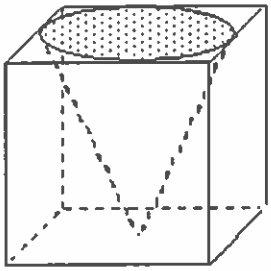
20. Calculate the volume of the cone. Use $\pi \approx 3.14$.



a. 9.42 m^3
b. 113.04 m^3
c. 12 m^3
d. 37.68 m^3

Name: _____ ID: B

21. A machinist drilled a conical hole into a cube of metal as shown. If the cube has sides of length 9 cm, what is the volume of the metal after the hole is drilled? Use $\pi \approx 3.14$ and round to the nearest tenth.

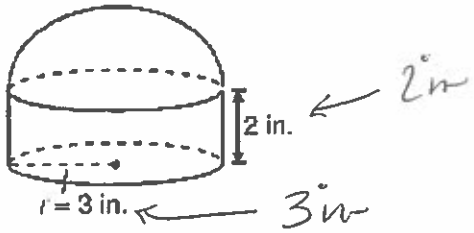


a. 500.1 cm^3
b. 474.7 cm^3
c. 474.8 cm^3
d. 538.2 cm^3

22. What is the surface area of a sphere with radius 4.7 feet?
a. 69.4 ft^2
b. 434.9 ft^2
c. 92.5 ft^2
d. 277.6 ft^2

23. What is the volume of a sphere with diameter 9.4 feet?
a. 277.6 ft^3
b. 92.5 ft^3
c. 69.4 ft^3
d. 434.9 ft^3

24. The top of the cylindrical container shown has the shape of a hemisphere. The total volume of the container is _____.



a. 18π $in.^3$
b. 36 $in.^3$
c. 36π $in.^3$
d. 27π $in.^3$

25. Find the diameter of a sphere that has a surface area of 144π in^2.

Advanced Geometry Chapter 11 Test (11.1-11.8, skip 11.4)
Answer Section

1. C
2. B
3. A
4. D
5. A
6. ≈ 322 sq. units
7. $\frac{53}{10}\pi$ 16.65
8. B
9. D
10. C
11. D
12. A
13. A
14. D
15. B
16. A
17. A
18. 60 m^3
19. B
20. D
21. D
22. D
23. D
24. C
25. 12 in.