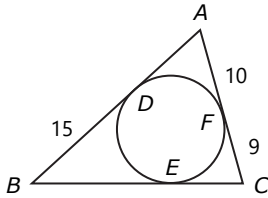


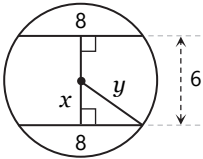
LESSON 174 Review: 3rd and 4th Quarters

Leave your answers in simplest radical form and in terms of π unless directed otherwise.

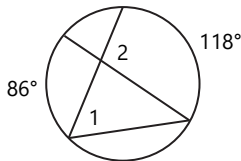
1. A triangle circumscribes a circle. Find the perimeter of the triangle.



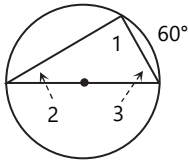
2. Find the values of x and y .



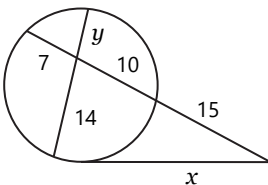
3. Find the measures of $\angle 1$ and $\angle 2$.



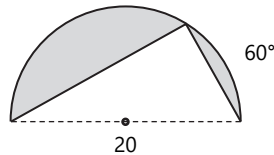
4. Find the measures of $\angle 1$ through $\angle 3$.



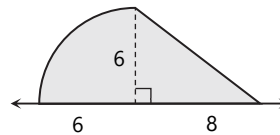
5. Find the values of x and y .



6. Find the area of an equilateral triangle with side length 4.
7. Find the area of a regular hexagon with side length 6.
8. Find the arc length and area of a sector with radius 12 and angle 150° .
9. Find the area of the shaded region.



10. Find the volume and surface area of a cylinder with radius 5 and height 6.
11. Sketch and describe the solid created by rotating the figure around the given line.



12. Find the volume and surface area of the solid of revolution above.
13. Two similar prisms have base areas 48 in^2 and 27 in^2 . Find the ratio of their heights and the ratio of their volumes.

14. A spherical water tank has radius 12 feet. How long will it take to fill the tank at a rate of 50 cubic feet per minute? Use $\frac{22}{7}$ as π . Round all calculations to the nearest whole number.

15. A wooden cylinder with both radius and height of 2 feet weighs 227 pounds. Find its density. Use $\frac{22}{7}$ as π . Round all calculations to the nearest tenth.

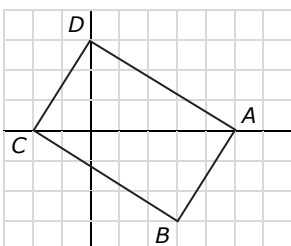
16. A city has a population of 504,000 people. The area of the city is about 60 square miles. What is the population density in people per square mile?

17. A circle has a diameter with endpoints $(-5, 2)$ and $(3, -2)$. Write its standard equation (center-radius form).

18. \overline{AB} is a directed line segment from $A(-7, -1)$ to $B(8, 4)$. Find point P that partitions \overline{AB} in the ratio 3:2.

19. Find an equation, in slope-intercept form, of the perpendicular bisector of \overline{AB} with $A(8, 4)$ and $B(-4, 0)$.

20. Classify the quadrilateral as precisely as possible.



21. Construct a segment congruent to \overline{AB} , then construct the perpendicular bisector of your segment.

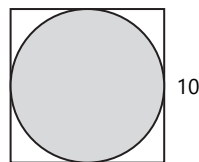


22. Construct an angle of 60° , then construct the bisector of your angle.

23. A die is rolled twice. What is the probability that the sum is not 5?

24. In a group of 30 students, 17 can speak Spanish, 14 can speak French, and 4 can speak neither. What is the probability that a randomly selected student can speak both Spanish and French?

25. A point is randomly selected in the figure. What is the probability that the point is in the shaded region?



26. How many teams of 3 players can be formed from 8 players?

27. (HONORS) A rhombus is formed by connecting the midpoints of the sides of a rectangle with width 10 cm and height 6 cm. A point is randomly selected in the rectangle. What is the probability that the point is in the rhombus?