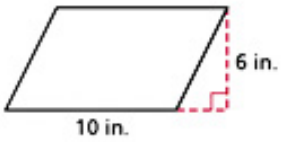
Lesson 9-1

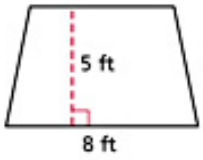
Find each measurement.

1. the area of the parallelogram

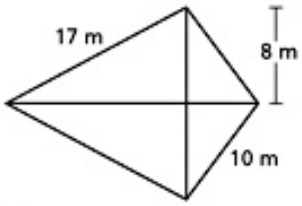


2. the perimeter of the rectangle in which $A = 15x^2$ ft^2

3. b_2 of the trapezoid in which $A = 35$ ft^2



4. the area of the kite

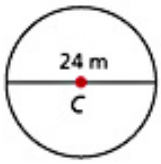


5. the base of a triangle in which $h = 9$ and $A = 135$ in^2
6. the area of a rhombus in which $d_1 = (3x + 5)$ cm and $d_2 = (7x + 4)$ cm

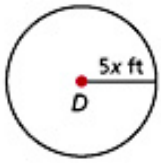
Lesson 9-2

Find each measurement.

7. the circumference of $\odot C$ in terms of π



8. the area of $\odot D$ in terms of π



9. the circumference of $\odot F$ in which $A = 49x^2\pi$ cm^2
10. the radius of $\odot E$ in which $C = 36\pi$ in.

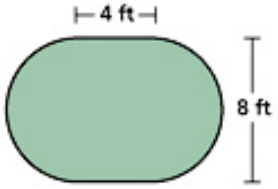
Find the area of each regular polygon. Round to the nearest tenth.

11. a regular hexagon with a side length of 8 in.
12. an equilateral triangle with an apothem of $\frac{5\sqrt{3}}{3}$ cm

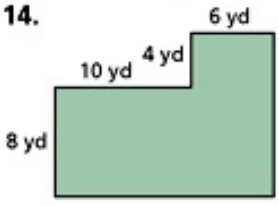
Lesson 9-3

Find the shaded area. Round to the nearest tenth, if necessary.

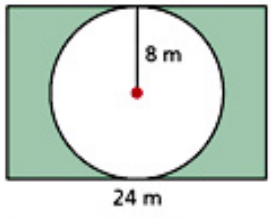
13.



14.

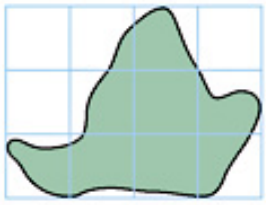


15.

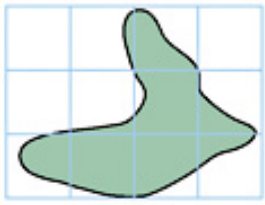


Use a composite figure to estimate each shaded area. The grid has squares with side lengths of 1 in.

16.



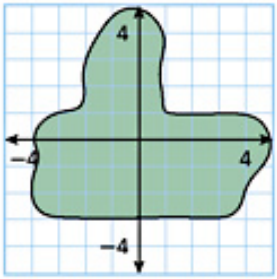
17.



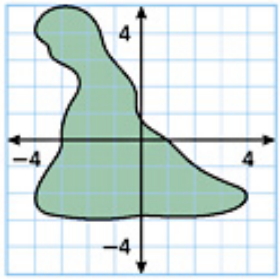
Lesson 9-4

Estimate the area of each irregular shape.

18.



19.



Draw and classify the polygon with the given vertices. Find the perimeter and area of the polygon.

20. $A(-2, 3), B(0, 6), C(6, 2), D(4, -1)$

21. $E(-1, 3), F(2, 3), G(2, -1)$

Find the area of each polygon with the given vertices.

22. $R(-2, 3), S(1, 5), T(3, 1), U(0, -2)$

23. $W(-4, 0), X(4, 3), Y(6, 1), Z(2, -1)$

Lesson 9-5

Describe the effect of each change on the area of the given figure.

24. The height of the rectangle with height 10 ft and width 12 ft is multiplied by $\frac{1}{2}$.

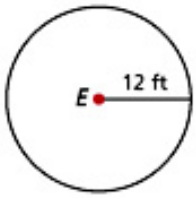
25. The base of the parallelogram with vertices $A(-2, 3), B(3, 3), C(0, -1), D(-5, -1)$ is doubled.

Describe the effect of each change on the perimeter or circumference and the area of the given figure.

26. The radius of $\odot E$ is multiplied by $\frac{1}{4}$.

27. The base and height of a rectangle with base 6 in. and height 5 in. are multiplied by 3.

28. A square has a side length of 7 ft. If the area is tripled, what happens to the side length?



29. A circle has a diameter of 20 m. If the area is doubled, what happens to the circumference?

Lesson 9-6

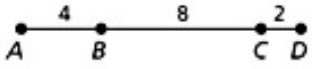
A point is chosen randomly on $\overline{AD}$. Find the probability of each event.

30. The point is on $\overline{AC}$.

31. The point is on $\overline{AB}$ or $\overline{CD}$.

32. The point is not on $\overline{BC}$.

33. The point is on $\overline{BD}$.



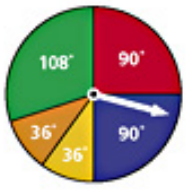
Use the spinner to find the probability of each event.

34. the pointer landing on green

35. the pointer landing on blue or red

36. the pointer not landing on orange

37. the pointer not landing on red or yellow



Find the probability that a point chosen randomly inside the rectangle is in each shape. Round to the nearest hundredth.

38. the equilateral triangle

39. the parallelogram

40. the circle

41. the part of the rectangle that does not include the circle, triangle, or parallelogram