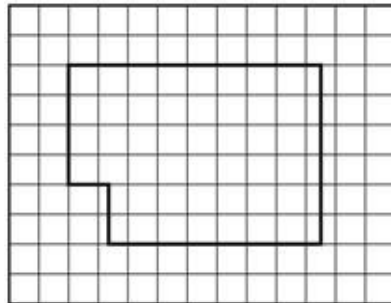TEST NAME: **7th grade math geometry practice**
TEST ID: **2386686**
GRADE: **07 - Seventh Grade**
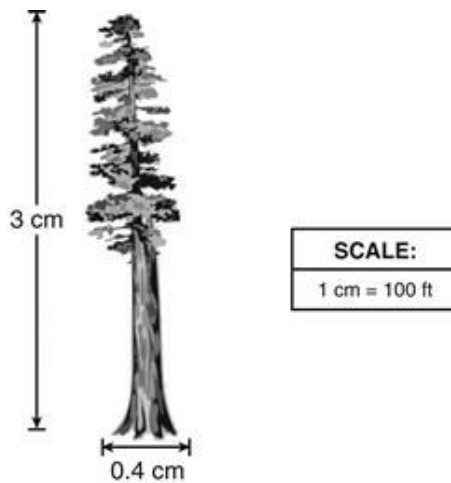SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

1. **Monty made a scale drawing of his room on grid paper, as shown below.**

   If each square on the grid paper represents a side length of 2 feet, what is the length, in feet, of the longest wall in the room?
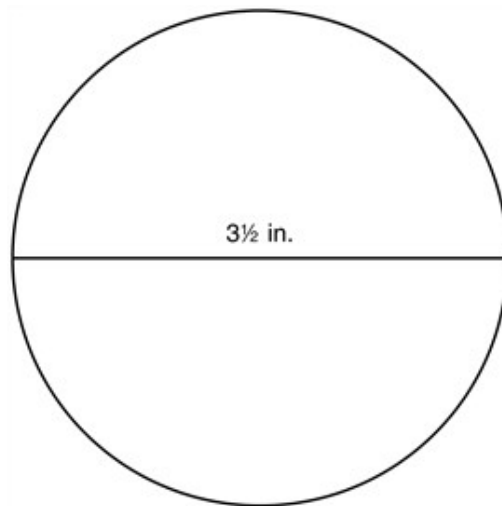
   A. 12

   B. 14

   C. 17

   D. 22

2. **While on a camping trip, James made a sketch of a sequoia tree. He used a scale of** $1cm = 100$ **ft.**

   3 cm
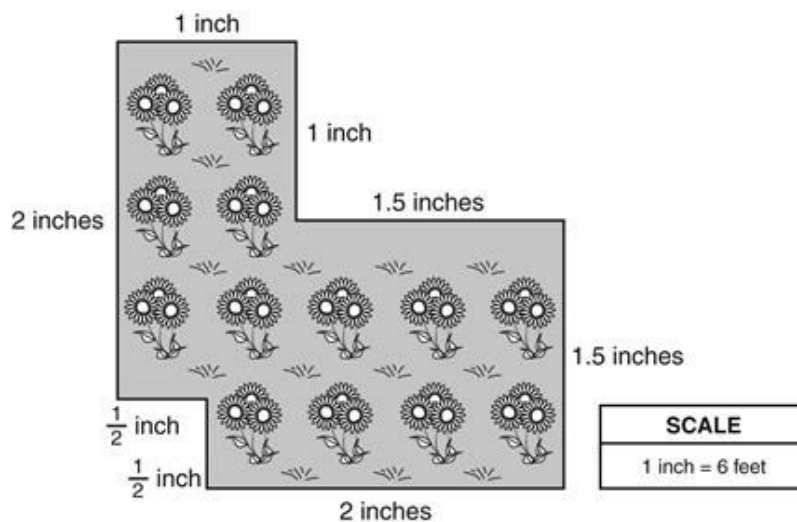
   SCALE:
   1 cm = 100 ft

   0.4 cm

   If the width of the trunk of the tree was 0.4 centimeter on James's sketch, what is the actual width of the tree, in feet?

   A. 25

   B. 40

   C. 250

   D. 400

3. **Make up a real-world problem using the circle below as a scale drawing. Be sure to specify the scale in the real-world problem.**
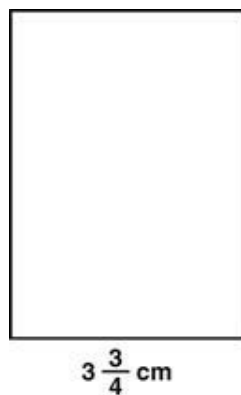

3½ in.

4. **A scale drawing of Juanita's garden is shown.**

1 inch

1 inch

2 inches

1.5 inches

1.5 inches

$\frac{1}{2}$ inch

$\frac{1}{2}$ inch

2 inches

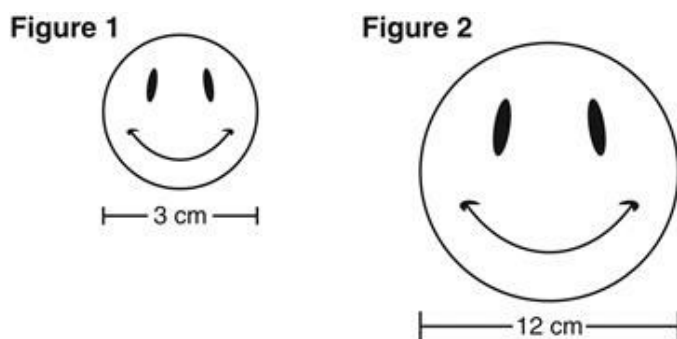| SCALE |
| --- |
| 1 inch = 6 feet |

What is the area of the garden, in square feet?

A. 27

B. 28.5

C. 162

D. 171

5. **Alaina made a scale drawing of a stained glass window using a scale of** $2\frac{1}{2}$ centimeters $= 1$ foot.

$3\frac{3}{4}$ cm

What is the actual width, in feet, of the stained glass window?

A. $1\frac{1}{4}$

B. $1\frac{1}{2}$

C. $3\frac{3}{4}$

D. $9\frac{3}{8}$

6. **The object in Figure 2 is a dilation of the object in Figure 1.**

Figure 1

$\longmapsto$ 3 cm $\longmapsto$

Figure 2

$\longmapsto$ 12 cm $\longmapsto$

Note: The figures are not drawn to scale.

Which scale factor was used to create the object in Figure 2?

A. $\frac{1}{4}$

B. $\frac{1}{3}$

C. 4

D. 9

7. **The scale on a map of Florida is** $1\frac{1}{8}$ **inch to 25 miles. The distance on the map from Gainesville to Ocala is** $1\frac{5}{8}$ **inch. Based on this information approximately how many miles are there between the two cities?**

A. 14 miles

B. 17 miles

C. 36 miles

D. 41 miles

8. **A particular red oak leaf measures 6 inches from tip to stem. In a scale drawing, the red oak leaf measures 1.5 inches from tip to stem. Using the same scale, a drawing of a post oak leaf measures 0.8 inch from tip to stem. What is the actual length of the post oak leaf?**

A. 2.0 in.

B. 3.2 in.

C. 9.8 in.

D. 11.3 in.

9. **The length of Benson's desk is 6 feet. Which of the following illustrations is drawn to a scale of 1 centimeter = 3 feet?**
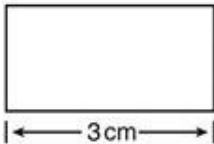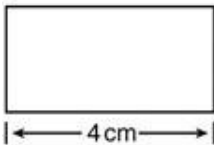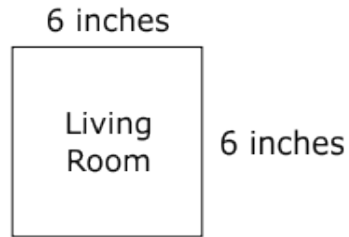
A. **Benson's Desk**

|←——1 cm——→|

B. **Benson's Desk**

|←——2 cm——→|

C. **Benson's Desk**

|←——3 cm——→|

D. **Benson's Desk**

|←——4 cm——→|
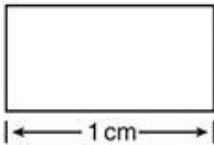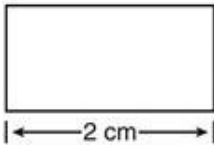
10. A scale drawing of a living room is shown below. The scale used to create this drawing is 1 in. = 2 ft.

6 inches

Living
Room

6 inches

What is the area of the actual living room?

A. 36 ft^2

B. 64 ft^2

C. 120 ft^2

D. 144 ft^2

11. Which set of angle measures could be the interior angles of a triangle?

A. 25°, 30°, 35°

B. 35°, 60°, 75°

C. 45°, 60°, 75°

D. 60°, 90°, 120°

12. Which choice shows three lengths that **cannot** be the lengths of the three sides of a triangle?

A. 2 cm, 8 cm, 8 cm

B. 2 cm, 3 cm, 6 cm

C. 4 cm, 5 cm, 7 cm

D. 5 cm, 6 cm, 9 cm

13. Which set of side lengths would **not** form a triangle?

    A. 3 cm, 4 cm, 5 cm

    B. 6 cm, 8 cm, 10 cm

    C. 10 cm, 12 cm, 24 cm

    D. 12 cm, 15 cm, 26 cm

14. Triangle *JKL* is an isosceles triangle. Side *JL* measures 8 inches and side *KL* measures 17 inches. What is the measure of the side *JK*?

    A. 8 inches

    B. 9 inches

    C. 12 inches

    D. 17 inches

15. Which set of side lengths could be used to create a triangle?

    A. 1 ft, 2 ft, 3 ft

    B. 5 ft, 9 ft, 13 ft

    C. 8 ft, 12 ft, 20 ft

schoolnet

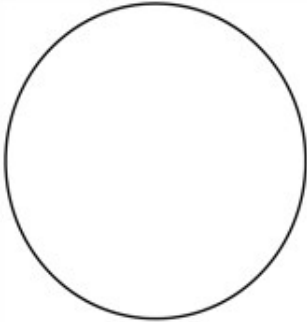16. **Choose all figures that can be cross sections of a cylinder.**
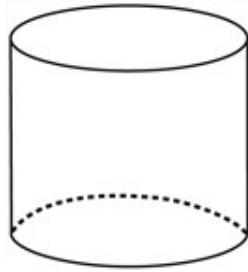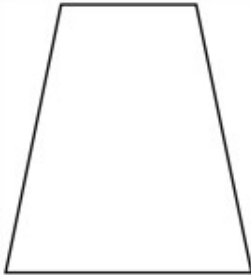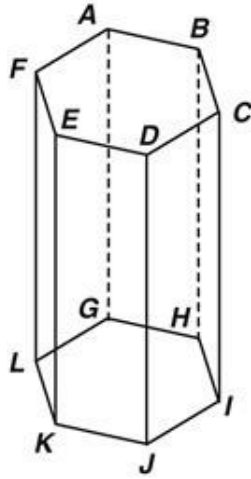
Pick up to 3 answers.

A.
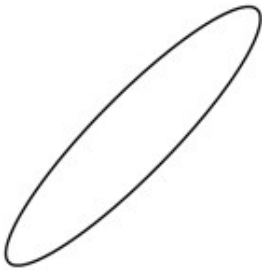
B.

C.

D.

17. **In the diagram, what is the intersection of Planes *FEK* and *EDJ*?**

A. $\overline{DE}$

B. $\overline{DJ}$

C. $\overline{KJ}$

D. $\overline{EK}$

18. A plane intersects a right rectangular prism perpendicular to its base. The plane forms a cross section. What is the shape of the cross section?

A.   parallelogram, that is not a rectangle

B.   triangle, that is not equilateral

C.   trapezoid

D.   rectangle

19. A rectangular prism is cut parallel to its base. What two-dimensional figure is formed by the cross section?

A.   rectangle

B.   trapezoid

C.   triangle

20. **Mrs. Lubek exercises her horse by walking him around a circular track. The distance from the edge of the track to the center of the circle is 150 ft. If Mrs. Lubek walks her horse 4 times around the track, approximately how many feet will she and the horse travel? (Use π = 3.14.)**

    A. 471 ft

    B. 942 ft

    C. 1884 ft

    D. 3768 ft

21. **Tracy designed the following piece of art using a length of string and a very thin rod. She shaped the string using a semi-circular pattern.**


16 cm   16 cm

16 cm   16 cm   16 cm
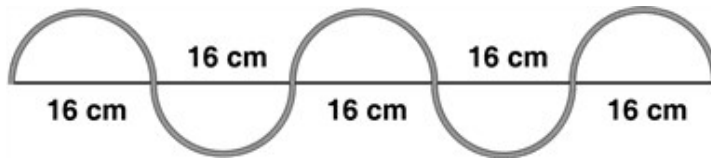
    How much longer, in centimeters, is the string than the rod? (Use $\pi \approx 3.14$)

22. **Mr. Chen has a circular flower garden with a diameter of 5 feet. He put a fence around the garden to keep rabbits from eating the flowers. About how much fencing did he use?**

    A. 5 feet

    B. 16 feet

    C. 25 feet

    D. 31 feet

23. **Rasheed's dog is on a leash in the yard. With the leash attached to a pole in the center of the yard, his dog has a total play area of $144\pi \text{ ft}^2$. What is the length of the dog's leash?**

    A. 4 ft

    B. 8 ft

    C. 12 ft

    D. 72 ft

24. **Tyree is ordering drink coasters with the school logo printed on the top. The coasters are circular with a radius of 1.75 inches. What is the area of each coaster? (Use 3.14 for π)**

    A. 4.81 in.^{2}

    B. 9.62 in.^{2}

    C. 10.99 in.^{2}

    D. 19.23 in.^{2}

25. What is the **approximate** circumference of a circle with a radius of 5 in.?
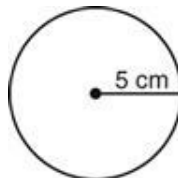
    A. 16 in.

    B. 20 in.

    C. 31 in.

    D. 79 in.

26. **If a circle has a radius of 11 meters, what is its circumference?**
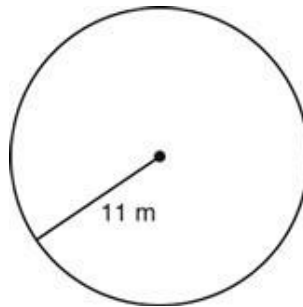
    A. 11 meters
    B. 11π meters
    C. 22 meters
    D. 22π meters

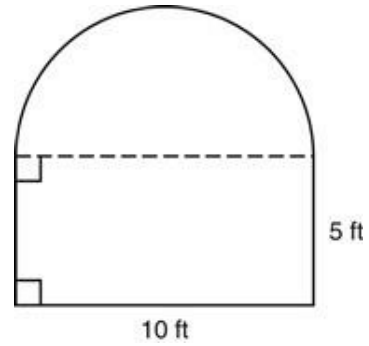27. **To the nearest square centimeter, what is the area of the circle below?** (Use $\pi = 3.14$.)

    A. 16
    B. 31
    C. 63
    D. 79

28. A container has a circular lid with a circumference of 33 cm. What is the **approximate** diameter of the lid?

    A. 5 cm

    B. 10.5 cm

    C. 16.5 cm

    D. 21 cm

29. **The figure below consists of a semicircle and a rectangle.**

What is the area, in square feet, of the figure?

A. $50 + 2.5\pi$

B. $50 + 10\pi$

C. $50 + 12.5\pi$

D. $50 + 25\pi$

30. **Three average-sized adults stood around the base of the tree pictured below. With their arms outstretched, their fingertips barely touched one another.**
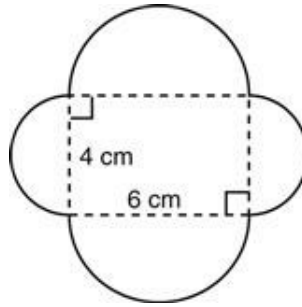

Which is the BEST estimate for the circumference of the tree?

A. 6 feet

B. 10 feet

C. 18 feet

D. 32 feet

31. **Abraham set the table for a picnic using round plates. Each plate has a diameter of 8 inches. What is the area of each plate?**

A.
4π in.^{2}

B.
8π in.^{2}

C.
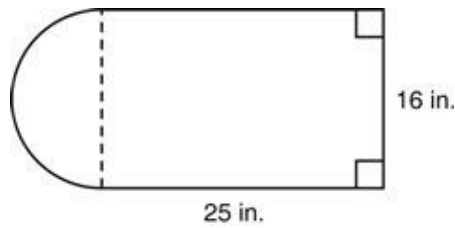16π in.^{2}

D.
64π in.^{2}

32. **The figure consists of a rectangle and semicircles.**

4 cm

6 cm

What is the area, in square centimeters, of the figure?

A.
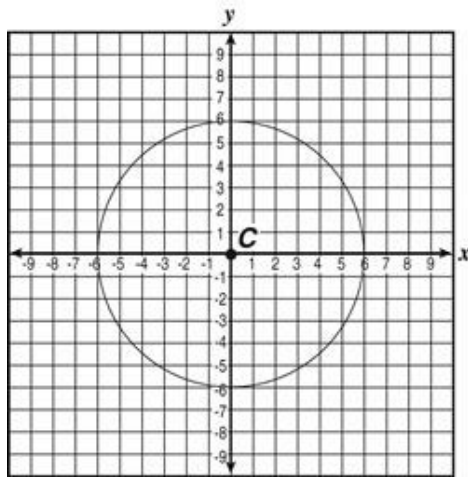13π

B.
$24 + 6.5\pi$

C.
$24 + 13\pi$

D.
$24 + 52\pi$

33. **This figure consists of a rectangle and a semicircle.**

16 in.

25 in.

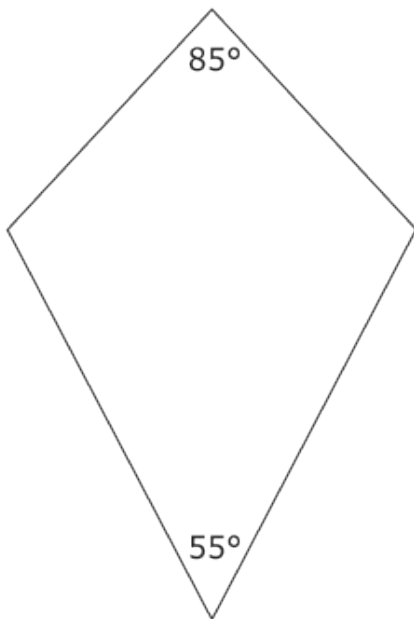**What is the area, in square inches, of this figure?**

A.
$400 + 4\pi$

B.
$400 + 8\pi$

C.
$400 + 32\pi$

D.
$400 + 64\pi$

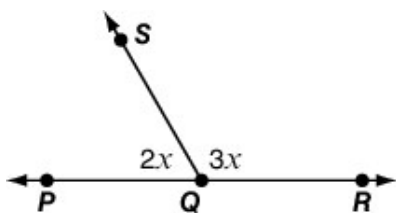**34.** **What is the approximate area, in square units, of circle _C_?**

A. 19

B. 38

C. 113

D. 452

35. William is making a kite. The top interior angle is 85°, and the bottom interior angle is 55°. The side angles are congruent.
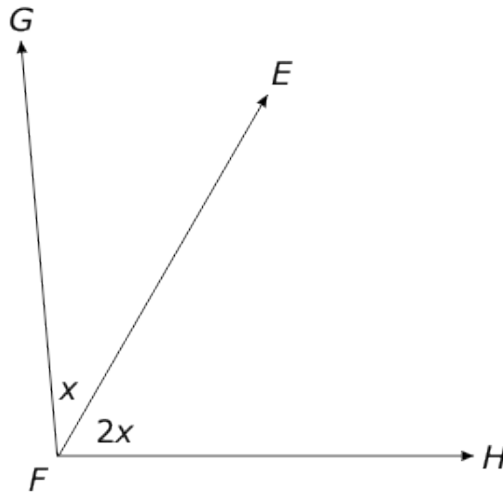
85°

55°

What is the measure of each side angle?

A. 20°

B. 70°

C. 110°

D. 220°

36. What is the $m\angle PQS$ in the figure below?

S

2x 3x

P   Q   R

A. 36°

B. 60°

C. 72°

D. 108°

37.

In the figure below, ∠*GFH* measures 96°.

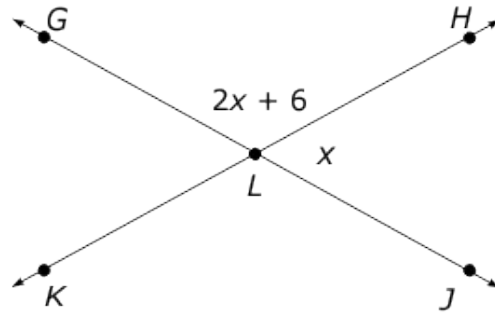

What is the measure of ∠*EFH*?

A. 32°

B. 48°

C. 64°

D. 84°

38. In the figure below, points *P*, *Q*, and *R* are on a straight line. Angle *RQV* and ∠*VQT* are complementary.
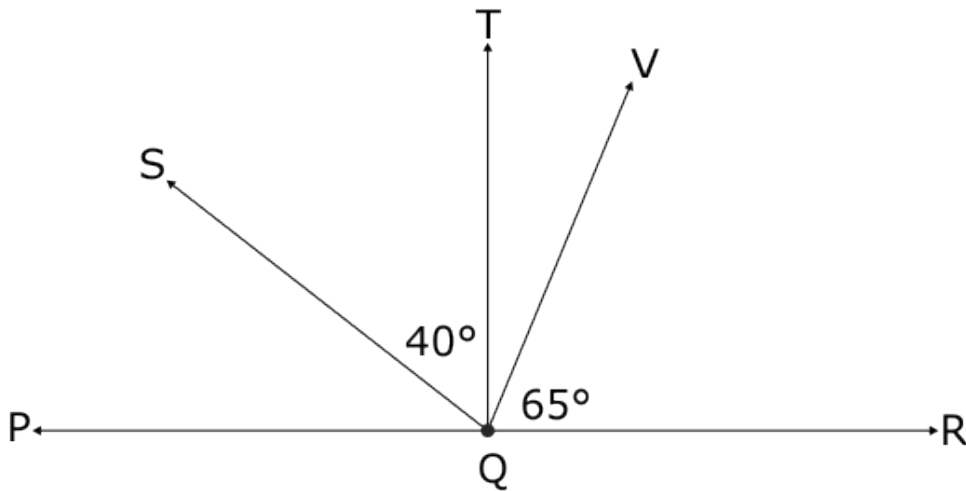
What is the measure of ∠*PQS*?

A. 25°

B. 40°

C. 50°

D. 75°

39. In the figure below, ∠GLH and ∠KLJ are vertical angles.

Which is the measure of ∠GLK?

A. 58°

B. 62°

C. 64°

D. 87°

40. **In the diagram below, $l \perp m$.**
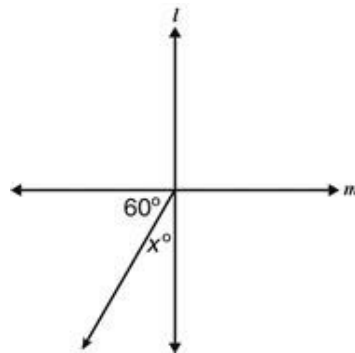
Mark solved for x and got 30 for an answer. Which statement justifies Mark's answer?

A. Vertical angles are congruent.

B. Alternate interior angles are congruent.

C. If two lines intersect to form a pair of congruent adjacent angles, then the lines are perpendicular.

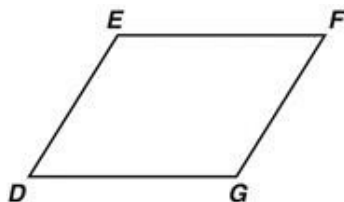D. If two sides of two adjacent angles are perpendicular, then the angles are complementary.

41. A parallelogram is shown below.

What is the measure of angle *X*?

A. 18°

B. 72°

C. 108°

D. 144°

42. **Figure *DEFG* is a parallelogram.**

If $m \angle D = 30°$, **what is** $m \angle E$?

A. 30°

B. 60°

C. 120°

D. 150°
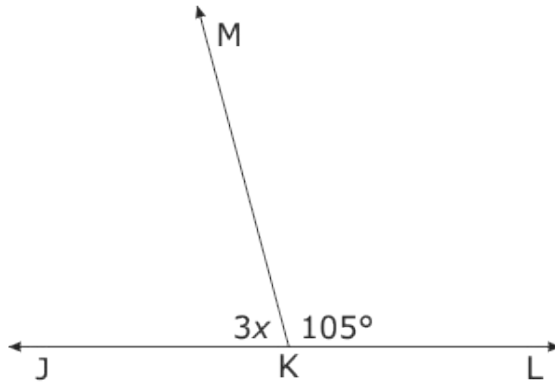
43. Two lines intersect in the figure below.
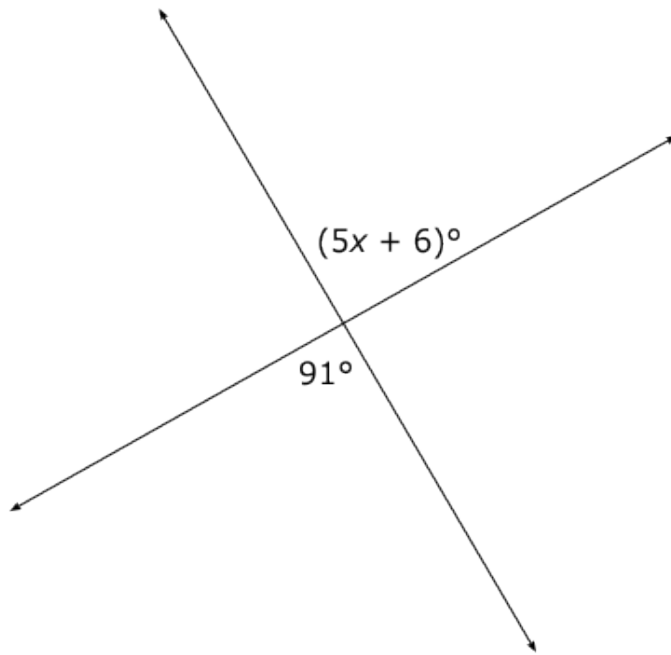
What is the value of x?

A. 17

B. 20

C. 24

D. 89

44. In the figure below, ∠*JKM* and ∠*MKL* are supplementary.

What is the value of *x*?

A. 25

B. 35

C. 75

45. **Alice is cutting pieces of cloth to sew into a quilt. She cut one piece of cloth into a parallelogram with a base of 7 inches and a height of 4 inches. What is the area of this piece of cloth?**

A. 11 in.^{2}

B. 14 in.^{2}

C. 22 in.^{2}

D. 28 in.^{2}

46. **Rectangle *ABCD* has a width of 3 feet and a length of 4 feet. Rectangle *WXYZ* has double the width and double the length of Rectangle *ABCD*. How many times larger is the area of Rectangle *WXYZ* than the area of Rectangle *ABCD*?**

A. 2

B. 4

C. 6

D. 8

47. United States dollar bills measure 2.61 inches wide and 6.14 inches long. What is closest to the area, in square inches, of a dollar bill?

   A. 8.75
   B. 12.00
   C. 16.03
   D. 17.50

48. Sean stores his marbles in the container shown below.
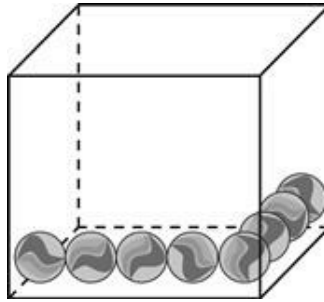
   If he fills the container with marbles of the same size, approximately how many marbles can Sean store in this container?

   A. 20
   B. 60
   C. 80
   D. 100

49. What is the area of a triangle having a base of 4 inches and a height of 8 inches?

   A. 6 in.^2
   B. 12 in.^2
   C. 16 in.^2
   D. 32 in.^2

50. **In the figure below, the length of each edge of the larger cube is 3 times the length of each edge of the smaller cube.**
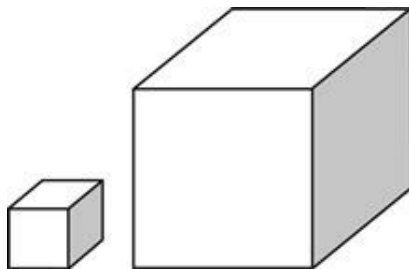
What is the ratio of the surface area of the smaller cube to the surface area of the larger cube?

A. 1:3

B. 1:9

C. 1:12

D. 1:27

51. **A rectangular prism has a volume of 10 cubic units. If the length, width, and height of the prism are each made 3 times as long, what is the new volume?**

A. 30 cubic units

B. 90 cubic units

C. 270 cubic units

D. 1000 cubic units

52. **The figure below shows the lengths of the sides of a hallway that will be tiled. The tiles are squares with sides measuring one foot.**
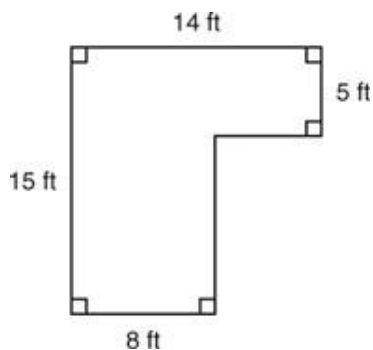
What is the LEAST number of tiles needed for the hallway?

A. 42

B. 58

C. 140

D. 150

53. **What is the surface area of the box?**
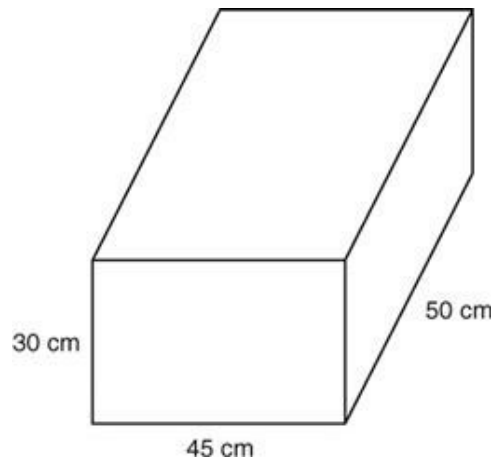
A. 67,500 cm^2

B. 10,200 cm^2

C. 5100 cm^2

D. 250 cm^2

54. Kelly is wrapping paper around a box. The box is 18 in. long, 12 in. wide, and 3 in. high. What is the minimum amount of paper Kelly needs to completely wrap the box?

A. 306 in.^{2}

B. 612 in.^{2}

C. 648 in.^{2}

55. **Miranda has two different flower boxes, each in the shape of a rectangular prism. If the smaller box has a volume of 8 cubic feet, and the dimensions for the larger box are 2 times those of the smaller box, what is the volume, in cubic feet, of the larger box?**

56. **Al is creating a rectangular flower bed with a width of 6 feet and length of 5 feet, as shown below.**

5 ft

6 ft
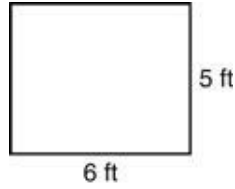
Which change described below would double the planting area of the flower bed?

A. adding 6 feet to the width

B. adding 6 feet to the length

C. adding 5 feet to both the length and the width

D. adding 6 feet to both the length and the width

57. **The figure below shows a square inside a rectangle.**

6

9
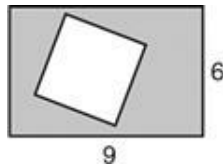
**If the area of the shaded part of the rectangle is 38, what is the length of a side of the square?**

A. 2 units

B. 3 units

C. 4 units

D. 5 units

58. **The length of one side of a square pond is 15 feet. The pond is surrounded by a 3 foot wide walkway. What is the total area of the pond and the walkway, in square feet?**

A. 84

B. 234

C. 324

D. 441

59. **What is the surface area of the following figure?**

2 cm   7 cm   2 cm
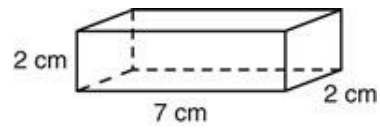
A. 28 cm^2

B. 64 cm^2

C. 74 cm^2

D. 80 cm^2

60. **Square floor tiles measuring 12 inches by 12 inches are packed in boxes of 12. Kira's bedroom dimensions are shown.**

19 ft 11 in.

16 ft

1 tile
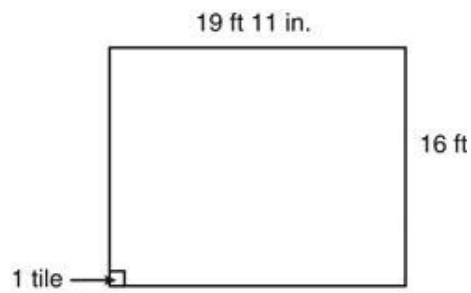
Approximately how many boxes of tiles would Kira need to tile her floor?

A. 2

B. 27

C. 40

D. 320