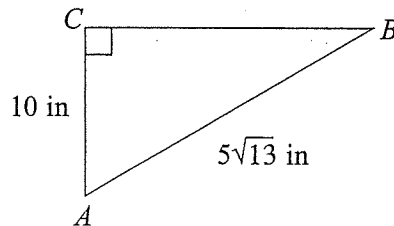
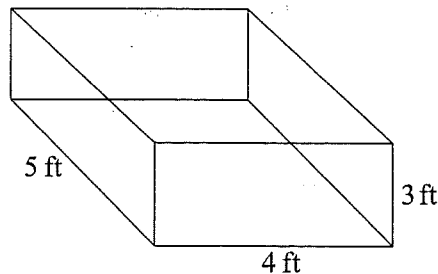


PRACTICE SET 5: PLANE GEOMETRY

1. Marco walks from his house to a friend's house by traveling 10 blocks north and then 8 blocks east. If he cut across a field, he could go in a straight line from his house to his friend's house and save time. Which of the following gives the distance of the straight line from Marco's house to his friend's house?
 - A. 9.9
 - B. 10.1
 - C. 11.6
 - D. 12.8
 - E. 13.3
2. The diameter of a circle is 12 inches. What is its area, in inches?
 - F. 18.9
 - G. 37.7
 - H. 113.1
 - J. 335.6
 - K. 452.4
3. In $\triangle ABC$ shown below, the measure of \overline{AC} is 10 inches and \overline{AB} is $5\sqrt{13}$ inches. What is the measure of \overline{BC} in inches?



- A. 12
 - B. 15
 - C. $\sqrt{325}$
 - D. 10
 - E. $5\sqrt{15}$
4. Which of the following is the volume of the rectangular solid shown below?

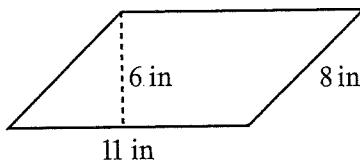


- F. 12
- G. 20
- H. 23
- J. 50
- K. 60

5. The area of a rectangle is 48 in^2 . Which of the following is a possibility for the perimeter of the rectangle?

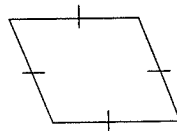
A. 26
 B. 34
 C. 40
 D. 52
 E. 96

6. The area of a parallelogram may be found by using the formula $A = bh$, where b is the length of one pair of parallel sides and h is the perpendicular distance between them. What is the area of the parallelogram shown in the figure below?



F. 19
 G. 34
 H. 48
 J. 66
 K. 88

7. All sides of a rhombus are the same length, as shown in the figure below. If one diagonal is 12 inches long and the other is 16 inches long, how many inches long is each side of the rhombus?

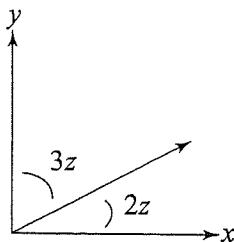


A. $\sqrt{14}$
 B. $\sqrt{28}$
 C. 10
 D. 14
 E. 16

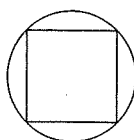
8. A circular tile sundial with a diameter of 15 meters is placed flat on the ground within the perimeter of a 30 meter by 60 meter rectangular lawn. What is the approximate area of the lawn that is not covered by the sundial?

F. 75
 G. 1,093
 H. 1,575
 J. 1,623
 K. 1,800

9. What are the measures of the two angles shown in the figure below?

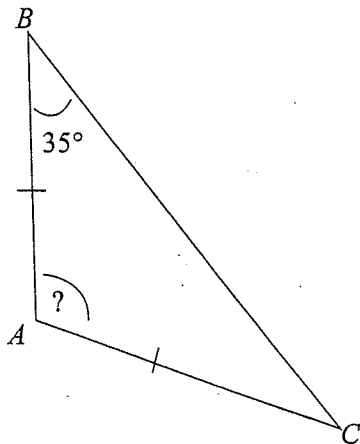


- A. $36^\circ, 54^\circ$
 B. $18^\circ, 72^\circ$
 C. $36^\circ, 144^\circ$
 D. $27^\circ, 63^\circ$
 E. $72^\circ, 108^\circ$
10. In the figure below, a square with sides of length 6 inches is inscribed in a circle. What is the diameter of the circle?



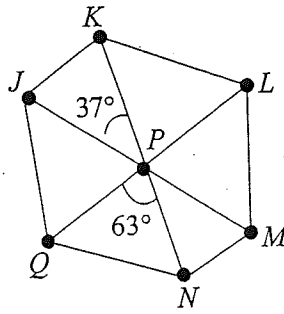
- F. 6
 G. 12
 H. 36
 J. $2\sqrt{3}$
 K. $6\sqrt{2}$
11. A red circle of fabric is to be sewn onto a rectangular white flag that is 9 feet by 12 feet. The edge of the circle must be at least 3 feet from any edge of the white fabric. What is the maximum radius of a red circle that can be sewn on the flag?
- A. 1.5
 B. 2
 C. 2.5
 D. 3
 E. 3.5

12. In $\triangle ABC$ shown below, $\overline{AB} \cong \overline{AC}$, and the measure of $\angle B$ is 35° . What is the measure of $\angle A$?



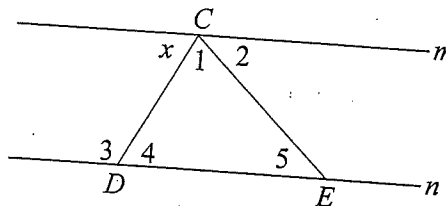
- F. 35°
 G. 70°
 H. 110°
 J. 115°
 K. 120°

13. In the figure below, \overline{JM} , \overline{KN} , and \overline{LQ} all intersect at point P , with angle measures as marked. What is the measure of $\angle LPN$?



- A. 26°
 - B. 80°
 - C. 100°
 - D. 108°
 - E. 117°
14. The area of the living room in a house is to be tripled. Before construction, the room is 12 feet by 16 feet. If the width is increased by 4 feet, by how many feet must the length increase?
- F. 18
 - G. 20
 - H. 24
 - J. 28
 - K. 36

15. In the figure showing $\triangle CDE$ below, line m is parallel to line n . Which of the following angles must be supplementary to $\angle x$?



- A. $\angle 1$
- B. $\angle 2$
- C. $\angle 3$
- D. $\angle 4$
- E. $\angle 5$