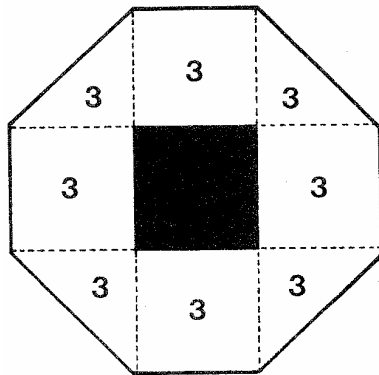


1. The area of a certain rectangle is 203 sq. in. Its perimeter is 72 inches. What are the dimensions of the rectangle? 1. _____ in. by _____ in.
2. Find the area of a triangle with vertices (1,2); (4,8); and (10,3). 2. _____ sq. units
3. $1 + 5 + 9 + 13 + \dots = 1540$
If this pattern continues, 1540 will be the sum of how many terms? 3. _____
4. What is the only positive two-digit prime whose digits themselves are neither prime nor composite? 4. _____
5. How well can you follow directions?
(Hint: Write each new “word” as you form it.) 5. _____
- Print the word I N S T R U C T I O N S.
 - Take out the 2nd, 6th and 9th letters.
 - Exchange the 4th and 8th letters.
 - Place a Y after the 9th letter.
 - Take out the 2nd, 3rd, 4th, and 9th letters.
 - Place a V before the 1st letter.
 - What word is left?

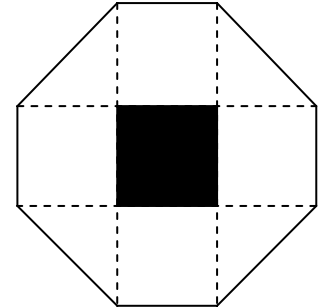
6. The Pep Club was to sell snacks at the game. Twenty-four members were there to serve the customers, so three went into each section. This made nine on each side, as the drawing shows.

Sales were poor; the booth was crowded with all 24 servers in it. Four members wanted to leave, but they knew the sponsor would return and count to be sure there were nine servers on each side.

Help the members move around so the sponsor will still count nine on each side even though four members have left.



6.



7. If one side of a square is increased by 7 feet and the adjacent side decreased by 2 feet, the resulting rectangle has perimeter 42 feet. What is the length of the square's side?

7. _____ feet

8. The square number 25 has the property that when its digits are increased by 1 it is converted to 36, another square number. There is just one 4-digit square number with the same property. What is it? 8. _____

9. Find A , B and C to make the adjoining addition sum correct. 9. $A =$ _____

$$\begin{array}{r}
 A \quad B \quad C \\
 A \quad B \quad C \\
 + \quad A \quad B \quad C \\
 \hline
 B \quad B \quad B
 \end{array}$$

$B =$ _____

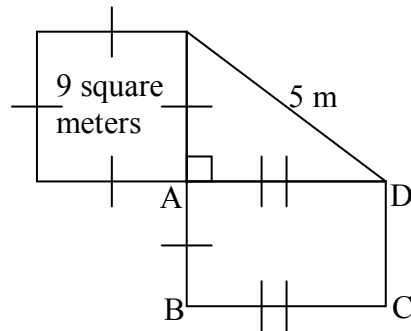
$C =$ _____

10. Use six 3's and any operations to make the number 30. 10. _____

11. Find the next number in this sequence 1, 16, 81, 256. 11. _____

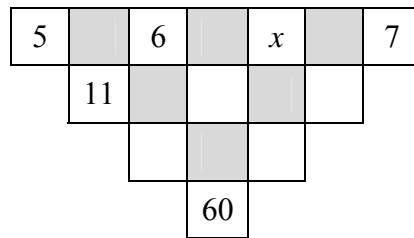
12. Determine the area of ABCD

12. _____ sq. meters



13. The number in an unshaded square is obtained by adding the numbers connected with it from the row above. (The 11 is one such number.) What is the value of x ?

13. _____



14. The product of 15 and a number is 9 less than the sum of twice the number and 152. What's the number?

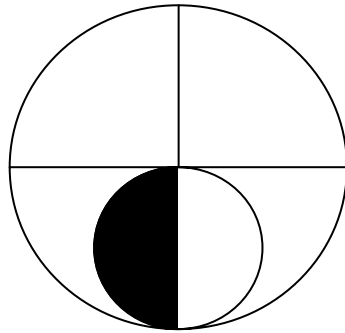
14. _____

15. 3^{31} ends in what digit?

15. _____

16. In the circle below, what part of the large circle is represented by the shaded area?

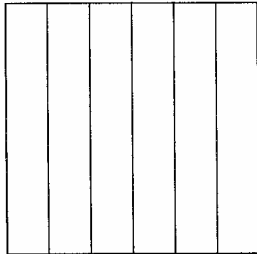
16. _____



17. Two express trains leave at the same time from opposite stations traveling at speeds of 56 mph and 63 mph. After traveling nonstop a combined distance of 476 miles they pass each other. How many hours was each train traveling?

17. _____ hours

18. The square below is composed of 6 congruent rectangles. If the perimeter of each rectangle is 42 cm, what is the area of the square?

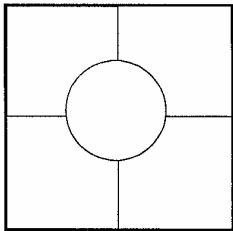


18. _____ cm²

19. A closed rectangular box has a surface area of 1000 square cm. Its length is twice its width, and its height is six times its width. What is its volume?

19. _____ cm³

20. What is the area of the circle that passes through the four unit squares, touching the midpoints of the sides as shown below?
(Use $\pi = 3.14$)



20. _____ sq. units