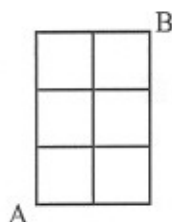
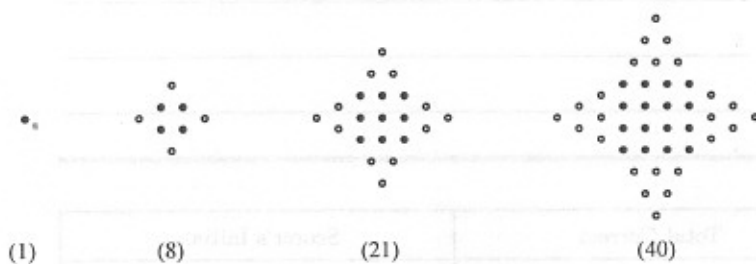


1. What is the greatest three-digit prime number each of whose digits is also prime? 1. \_\_\_\_\_
2. How many ways are there to get from A to B by following the segments and moving only up or to the right? 2. \_\_\_\_\_

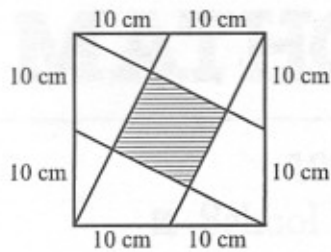


3. The number of square inches in the area of a rectangle is equal to the number of inches in its perimeter. Each dimension is a whole number, and the rectangle is not a square. What is the number of inches in the perimeter of the rectangle? 3. \_\_\_\_\_
4. A number cube, with the integers 1–6 on its faces, is rolled. The result is used as the tens digit. The cube is rolled again, and the second result is used as the units digit. What is the probability that the two-digit number formed is prime? Express your answer as a common fraction. 4. \_\_\_\_\_
5. The first four *stellations* are represented below. How many dots are in the 20th stellation? 5. \_\_\_\_\_

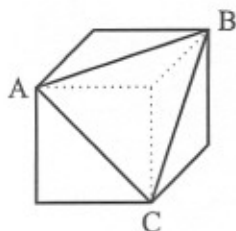


6. A cylindrical jar with height 8 inches and diameter 6 inches is filled to 75% of its capacity with juice. The juice is then poured into another cylindrical container with a 10-inch diameter and height of 4 inches. To what percent of its capacity is the second jar filled with juice? 6. \_\_\_\_\_
7. How many positive factors does the number 900 have? 7. \_\_\_\_\_

8. What is the number of square centimeters in the area of the shaded region? 8. \_\_\_\_\_



9. The shape of a perfume bottle is a cube which has been cut along the plane of the diagonals of the three faces as shown. Given that the edge length of the cube is 4 inches, what is the number of square inches in the area of  $\triangle ABC$ ? Express your answer in simplest radical form. 9. \_\_\_\_\_



10. Micah places coins in the order of penny, nickel, dime, penny, nickel, dime, and so on, as shown, so that each row contains one more coin than the previous row. What is the number of cents in the value of all coins in the 13th row? 10. \_\_\_\_\_

