1. Each interior angle of a regular polygon measures 140 degrees. How many sides does the polygon have? 1. _____

2. What is the volume in cubic inches of a cube whose surface area is 96 square inches? 2. _____

3. For what whole number N is $\frac{N}{12}$ between $\frac{1}{2}$ and $\frac{2}{3}$? 3. _____

4. Emily sees this sign in a grocery store. She selects 25 oranges and gives the clerk one nickel. According to the price on the sign, how many cents does the clerk owe her? 4. _____

5. The base of a rectangle is $19 + 2x$ cm and the height is 57 cm. How many centimeters are in the perimeter when the rectangle is a square? 5. _____

6. The number of inches in the perimeter of a square is equal to the number of square inches in its area. What is the number of inches in the side length of the square? 6. _____

7. How many of the six integers 1 through 6 are divisors of the four-digit number 1452? 7. _____

8. A number in the set {50, 51, 52, 53, ... , 999} is randomly selected. What is the probability that it is a two-digit number? Express your answer as a common fraction. 8. _____

9. A number is randomly selected from the integers 1 through 9. What is the probability that the number is less than 7 and divisible by 3? Express your answer as a common fraction. 9. _____

10. What is the digit in the thousandths place of the decimal equivalent of $\frac{3}{16}$? 10. _____

11. What is the least positive integer that is divisible by three distinct primes? 11. _____

12. What is the slope of the line that contains the points (4.5, 6.85) and (1.5, 2.35)? Express your answer as a common fraction. 12. _____

13. Twenty 3-foot by 3-foot square tiles cover a floor without overlap. Exactly how many 9-inch by 9-inch square tiles would be needed to cover the same floor without overlap? 13. _____

14. What is the remainder when you divide 123,456 by 9? 14. _____

15. The perimeters of two similar triangles are in a ratio of 5 to 2. The shortest side of the smaller triangle is 6 cm. What is the length in centimeters of the shortest side of the larger triangle? 15. _____

16. What is the least positive three-digit multiple of 7? 16. _____

17. Samantha competed in a one-mile race. One-fourth of the runners finished ahead of her, two-thirds of the runners finished behind her and nobody tied her. How many runners were in the race? 17. _____

18. The number 1212 is $\frac{3}{4}$ of another number. What is the other number? 18. _____

19. The repeating decimal for $\frac{3}{11}$ is $0.ababab...$ What is the value of the sum $a + b$? 19. _____

20. Josh was born at noon on July 4, 1991. Angelica was born at noon on September 10, 1991. How many days older is Josh than Angelica? 20. _____

21. The Hollenbecks own a square lot with area 3600 square meters. They plan to fence just three sides of this lot. How many meters of fence must they purchase? 21. _____

22. What is the 13^{th} number in the arithmetic sequence 7, 10, 13, ...? 22. _____

23. How many distinct positive integer divisors does $2 \cdot 3 \cdot 3 \cdot 3 \cdot 5 \cdot 5$ have? 23. _____

24. Presto Printing charges \$1.25 per book for shipping and \$3 per order for handling. What is the total cost in dollars of shipping and handling for an order of 10 books? Express your answer as a decimal to the nearest hundredth. 24. _____

25. What is the units digit of the sum of the squares of the first nine positive integers? 25. _____

26. How many different four-digit positive integers can be written using only odd digits, if a digit cannot be used more than once in each four-digit positive integer? 26. _____

27. Evaluate: $[1-(-1)^{11}]^2$. 27. _____

28. Two distinct fractions are chosen randomly from the set $\{\frac{1}{3}, \frac{1}{5}, \frac{7}{10}, \frac{5}{6}\}$. What is the probability that their sum is less than 1? Express your answer as a common fraction. 28. _____

29. How many non-empty subsets does a three-element set have? 29. _____

30. What is the greatest integer value of x for which $5-4x>17$? 30. _____

31. What is the smallest integer greater than 10 that is both a perfect square and a perfect cube? 31. _____

32. One-half of the people in a room have two brown eyes, one-fourth have two blue eyes and one-sixth have two green eyes. The other 9 people in the room have two hazel eyes. How many people are in the room? 32. _____

33. On a map, the distance between Jacksonville, FL and Pensacola, FL is 18.6 inches. The scale for the map is 1 inch = 20 miles. What is the actual distance in miles between the two cities? 33. _____

34. Three fair, standard six-sided dice are rolled. What is the probability that the sum of the numbers on the top faces is 18? Express your answer as a common fraction. 34. _____

35. Compute: (6)(30) – (15)(13). 35. _____

36. The mean of 9 consecutive integers is 13. What is the sum of the least and greatest of these integers? 36. _____

37. Express in simplest form: $576{,}000 \div 800$. 37. _____

38. What is the least integer divisible by 11 that is greater than 2003? 38. _____

39. One cubic foot is what fraction of a cubic yard? Express your answer as a common fraction. 39. _____

40. The Lily family plans to build an outdoor garden with a powerjet pump that will pump 375 gallons of water per hour. How many quarts of water will be pumped per minute? 40. _____

41. A CD can store 120 minutes of sound. How many cassette tapes with 75 minutes of recorded sound can be stored on 10 CD's? 41. _____

42. A line with slope $\frac{2}{3}$ contains the point P(–18, –12). What is the x-intercept of the line? 42. _____

43. The arithmetic mean of eight numbers is 23. What is their sum? 43. _____

44. The lengths of the sides of a triangle are x, 13 and 37 units. How many integer values of x are possible? 44. _____

45. A customer was one day late paying a credit card bill in the amount of $4500 and was charged a 1.5% late fee. What was the amount, in dollars, of the late fee? Express your answer as a decimal to the nearest hundredth. 45. _____

46. What common fraction with a value between 0.81 and 0.91 has the least denominator? 46. _____

47. A bug moves 1 inch up and then 2 inches to the right on a piece of paper. How many inches is the bug from its original position? Express your answer in simplest radical form. 47. _____

48. For how many integer values of n does $n^2 = |n|$? 48. _____

49. What is the number of square inches in the area of a circle with a diameter of 10 inches? Express your answer in terms of π. 49. _____

50. The five-digit number 24,6n8 is divisible by 9. What is the value of the digit n? 50. _____

51. What is the least positive three-digit integer divisible by both 7 and 9? 51. _____

52. How many ways can $13 be made using only quarters and/or dimes? 52. _____

53. The rectangular pool in Liberty Park is three times as long and twice as wide as the rectangular pool in Madison Park. The depths of both pools are the same. The volume of the pool in Liberty Park is how many times as great as the volume of the pool in Madison Park? 53. _____

54. A number is 18 less than its additive inverse. What is the number? 54. _____

55. The arithmetic mean of 5, 5 and x is 5.3. What is the value of x? Express your answer as a decimal to the nearest tenth. 55. _____

56. What is the largest three-digit multiple of 9 whose digits' sum is 18? 56. _____

57. The cost of 10 pencils is $0.84. At the same rate, what is the cost, in dollars, of 25 pencils? Express your answer as a decimal to the nearest hundredth. 57. _____

58. For how many positive integer values of n is 3^n a factor of 15! ? 58. _____

59. In how many different ways can 12 dimes be divided into three piles with an odd number of dimes in each pile? 59. _____

60. The ratio of the number of junior high students to the number of senior high students in a school is 7 to 9. If there are 100 more senior high students than junior high students, how many junior high students are there? 60. _____

61. What is the number of square centimeters in the area of one 30° sector of a circle of radius 12 centimeters? Express your answer in terms of π. 61. _____

62. In a barn with cows and chickens, the number of legs was 16 more than twice the number of heads. How many cows were in the barn? 62. _____

63. How many meters longer is the circumference of a circle with radius 10 meters than the circumference of a circle with radius 5 meters? Express your answer in terms of π. 63. _____

64. By what common fraction does $0.\overline{81}$ exceed 0.81? 64. _____

65. If $\sqrt{n} = 4$, then what is the value of n^2? 65. _____

66. From the eleven members of the math club, a president, a vice-president and a treasurer are selected. In how many different ways can three distinct members be chosen to fill the positions? 66. _____

67. Using an exercise bike, Charlie burns 240 calories during 15 minutes of exercise. At this rate, what is the total number of calories Charlie burns during 20 minutes of exercise on the bike? 67. _____

68. Alicia is 150 centimeters tall. On a sunny day, she casts a 200-centimeter shadow at the same time that a flagpole casts a 24-meter shadow. How many meters tall is the flagpole? 68. _____

69. Two angles of a triangle have a ratio of 5 to 7. The third angle has a measure of 72 degrees. What is the measure in degrees of the smallest angle in the triangle? 69. _____

70. The cost to send a person to Mars is estimated to be $45 billion. If the cost is equally shared by each of the 250 million U.S. citizens, how many dollars are in each citizen's share? 70. _____

71. What is the probability that two tosses of a fair coin result in exactly one head and one tail? Express your answer as a common fraction. 71. _____

72. What is the probability that if you roll two fair, standard six-sided dice, the difference between the two numbers rolled will be 0? Express your answer as a common fraction. 72. _____

73. How many more vertices does an octagonal prism have than an octagonal pyramid? 73. _____

74. The chart shows the number of chapters Robert reads each day of the week. What is the fewest number of consecutive days in which he could finish a 45-chapter book? 74. _____

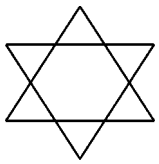
Days of the Week	Chapters read each day
Monday-Friday	2
Saturday	1
Sunday	4

75. What is the arithmetic mean of all positive two-digit multiples of 7? 75. _____

76. A cone and a cylinder have the same height and a base with the same diameter. What is the ratio of the volume of the cone to the volume of the cylinder? Express your answer as a common fraction. 76. _____

77. A number is increased by 32. The new number is one-third of 60% of the original number. What was the original number? 77. _____

78. Maria designs a six-pointed star by drawing an equilateral triangle on each side of a regular hexagon as shown in the diagram. The length of each side of the hexagon is 5 cm. What is the number of centimeters in the perimeter of Maria's star? 78. _____



79. If x is 40% of y, what percent of $2y$ is $3x$? 79. _____

80. Two-thirds of all Mathletes like to play basketball. Three-fourths of all Mathletes like to read. What is the greatest common fraction of all Mathletes that could possibly like neither of these activities? 80. _____