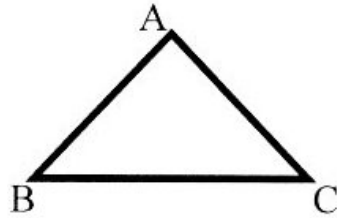


497. Triangle ABC is an isosceles triangle. Angles B and C have the same measure. Angle A measures 88 degrees. What is the measure of angle B?



_____ degrees

.....
498. The product of three consecutive counting numbers is 720. What is the sum of these same three numbers?

.....
499. The circumference of a circle is 42 mm. Which of the following is the best estimate for the radius of the circle?

- A. 4 mm B. 7 mm C. 14 mm D. 21mm

.....
500. Tom said, "I have twice as many marbles as Brandon." Matt said, "Tom has three more marbles than I have." If Brandon has N marbles, which expression would indicate the number of marbles that Matt has?

- A. $2N + 3$ B. $3N - 2$ C. $2N - 3$ D. $3N + 2$

.....
501. A 16-inch by 24-inch poster is put on a bulletin board. Pushpins are placed at each corner and every 8 inches along the perimeter of the poster. How many pushpins are needed to put up the poster?

_____ pushpins

.....
502. Four different lines are in a plane. Line 1 is perpendicular to line 2. Line 2 is perpendicular to line 3. Line 3 is perpendicular to line 4.

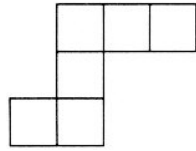
Which of the following statements is true?

- A. Line 1 is parallel to line 4.
B. Line 2 is perpendicular to line 4.
C. Line 1 is perpendicular to line 3.
D. Line 2 is parallel to line 4.

Write the letter of the correct choice on the blank to the right.

.....

503. The shape below is made up of 6 identical squares. If the area of the shape is 96 square units, what is the perimeter of the shape?



_____ units

.....
 504. Jennifer made a sequence of numbers using the following rules:

The first number in the sequence is 14. To get the other numbers in the sequence, take the previous number, triple it, and then subtract 6.

The first three numbers in Jennifer's sequence are 14, 36, 102.

What is the fourth number in Jennifer's sequence?

.....
 505. Brenda will celebrate her birthday on Monday, August 26, 2002. What day of the week is August 1, 2002?

.....
 506. Find 37.5% of $\frac{4}{9}$. Write your answer as a fraction in simplest form.

.....
 507. Renting a snowmobile costs \$50 per day, plus a one-time service charge of \$15. In addition there is a charge of \$3 for every 10 miles the snowmobile is driven. There are no other charges. Manuel rented a snowmobile for 3 days and drove it 160 miles. What should Manuel be charged for renting the snowmobile?

\$ _____

.....
 508. What fraction of all two-digit numbers have a 3 in the units place? Write your answer as a fraction in simplest form.

.....
 509. I have 7 coins that have a total value of \$0.49. How many dimes do I have?

.....
 510. I am thinking of three consecutive odd numbers. The product of the three numbers is 105. What is the sum of the three numbers?

.....
 511. Sharon's salary in 2000 was \$38,000. Her 2001 salary was 15% more than her 2000 salary. What was Sharon's 2001 salary?

\$ _____

512. The letters M and N represent two different decimal numbers, both of which have a value between 0 and 1. Which of the following is a true statement?

- A. The product of M and N is less than the sum of M and N.
- B. The product of M and N is equal to the sum of M and N.
- C. The product of M and N is greater than the sum of M and N.

Write the letter of the correct choice on the space at the right.

.....

The following five numbers are arranged from smallest to largest.

15 15 16 26 S

S is greater than 26.

513. Find the median of the five numbers.

.....

514. Find the mode of the five numbers.

.....

515. Find the mean of the first four numbers.

.....

516. The mean of all five numbers is 20. Find the value of S.

.....

The numerals 1, 2, 3, 4, 5, and 6 are each used once to label the six sides of a fair die.

Use this information to answer questions 517 and 518.

517. Janis rolls the die once. Find the probability that the numeral on the top face is a prime number. Write your answer as a fraction in simplest form. Fact: 1 is not a prime number.

.....

518. Sue rolls the die once. Find the probability that the numeral on the top face is a factor of 6. Write your answer as a fraction in simplest form.

.....

During the 2001 Labor Day Safe Driving program, the following data were compiled.

District	Number of Vehicles Stopped	Number of Warnings Issued	Number of Tickets Issued
A	400	115	240
B	300	175	50
C	100	10	47
Totals	800	300	337

Note: No vehicle was issued more than one warning or more than one ticket.

No vehicle was stopped more than once.

Use the information above to answer questions 519 and 520.

519. What percent of vehicles stopped in District A were issued a ticket?

_____ %

.....

520. The county statistician prepared a circle graph showing the number of vehicles stopped in the three districts. What should be the degree measure of the sector for District C?

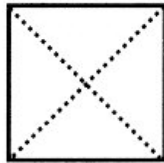
_____ degrees

521. Four different even numbers are added together. The sum is:

- A. always divisible by 4.
- B. sometimes divisible by 4.
- C. never divisible by 4.

Write the letter of the correct choice on the blank to the right.

522. A square piece of construction paper is cut along both diagonals to form 4 congruent triangles (as shown in the diagram).



If the area of one of the triangles is 81 square units, how long is one side of the original square?

_____ units

523. A box contains 9 identical storybooks. The combined weight of the box and the 9 books is 51 ounces. When 8 of the storybooks are removed from the box, the new weight is 19 ounces. How much does the empty box weigh?

_____ ounces

524. Mario has a square piece of cardboard measuring 6 inches on a side. He used scissors to trim the square down to a smaller square that is 5.5 inches on a side. Which of the following equations will give the perimeter (in inches) of the smaller square?

- A. $P = 4(6) - 4(5.5)$
- B. $P = 6^2 - (5.5)^2$
- C. $P = 4(5.5)$
- D. $P = (5.5)^2$

525. A and B are digits and $A > B$. Find the values of A and B that make both of these math problems true.

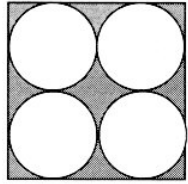
$$\begin{array}{r}
 AB \\
 + BA \\
 \hline
 55
 \end{array}
 \quad
 \begin{array}{r}
 AB \\
 \times BA \\
 \hline
 736
 \end{array}$$

A = _____ B = _____

526. Mario jogged 40 minutes at an average rate of 6 miles per hour. How far did Mario jog?

_____ miles

527. Four identical circles are placed inside a square. Each side of the square measures 10 cm. The area of each circle is approximately 19.6 square cm.



The approximate area (in square cm) of the shaded region is:

- A. 12 B. 22 C. 40 D. 61

528. Find the value of the missing number **X** in the sequence below.

- 27 -19 -11 -3 **X** 13

529. Dawntae purchased 5 books.

- * The least expensive book cost \$7.95 (including tax)
- * The most expensive book cost \$15.50 (including tax)

How much did Dawntae spend on the 5 books?

- A. \$23.45 B. Between \$24 and \$46 C. Between \$47 and \$70 D. More than \$70

Write the letter of the correct choice on the blank to the right.

530. Two pumps are used to fill a pool. Both pumps are turned on at the same time.
 Pump A pumps 7 gallons of water in 2 minutes.
 Pump B pumps 8 gallons of water in 3 minutes.

How many minutes will it take both pumps to pump 185 gallons into the pool?

_____ minutes

531. The symbol ☺ between two numbers means you should multiply the two numbers, then add 1 to the product. For example, $5 \text{ ☺ } 6 = 5 \times 6 + 1 = 31$.

Find the value of $(0.3 \text{ ☺ } 0.5) \text{ ☺ } (0.2 \text{ ☺ } 0.7)$.

Do not round your answer.

532. What number is four-sevenths of the way from $\frac{7}{15}$ to $\frac{7}{12}$ on the real number line? Write that number as a fraction in simplest form.

533. Meredith ran in a 4-mile race. She averaged 4 miles per hour for the first mile, 5 miles per hour the next 2 miles, and 3 miles per hour for the final mile. How many minutes did it take Meredith to complete the race?

_____ minutes

.....
534. There are 90 two-digit counting numbers. What percent of all two-digit counting numbers are increased by 9 when the two digits are reversed? Round your answer to the nearest percent.
_____ %

.....
535. Judith needs $1\frac{2}{3}$ yards of decorative cord to make a trim for a banner. One half of a yard of the cord costs \$2.88. At this rate, how much will Judith pay for $1\frac{2}{3}$ yards of cord? Assume there is no sales tax.
\$ _____

.....
536. I am thinking of three different counting numbers that have a product of 168. The smallest number is a perfect square. The largest number is a prime number. The remaining number is the product of two different prime numbers. What is the sum of the three numbers?

.....
537. A class of 20 students averaged exactly 75% on an exam. A class of 30 students averaged exactly 85% on the same exam. What was the average exam score for all 50 students?
_____ %

.....
538. How many different pairs of prime numbers have a sum of 24? Fact: 1 is not a prime number.
A. 1 B. 2 C. 3 D. 4 E. 5

.....
539. Andre paid \$150 for a guitar he plans to sell in his music store. He wants to price it so that he can discount the price by 10% and still make a profit of \$30. What price should he place on the guitar?
\$ _____

.....
540. Kayree began preparing for a race on July 1. She trained for 15 minutes on July 1, rested on July 2, trained for 20 minutes on July 3, rested on July 4, and trained for 25 minutes on July 5. She continued this pattern of resting on even-numbered days, and increasing her training time by 5 minutes on odd-numbered days. She completed her training on July 31. For how much time had Kayree trained during the month of July? Write your answer in minutes.
_____ minutes

.....
The following five numbers are arranged from smallest to largest.

M 15 18 22 N

541. The mode of the five number is 15. Find the value of M.

.....
542. The mean of M, 18 and N is 21. Find the value of M + N.

.....
543. Find the sum of the median of the first three numbers and the median of the last three numbers.

The numerals 1 through 8 are each used once to label the 8 sides of a fair die.
 Use this information to answer questions 544, 545, and 546.

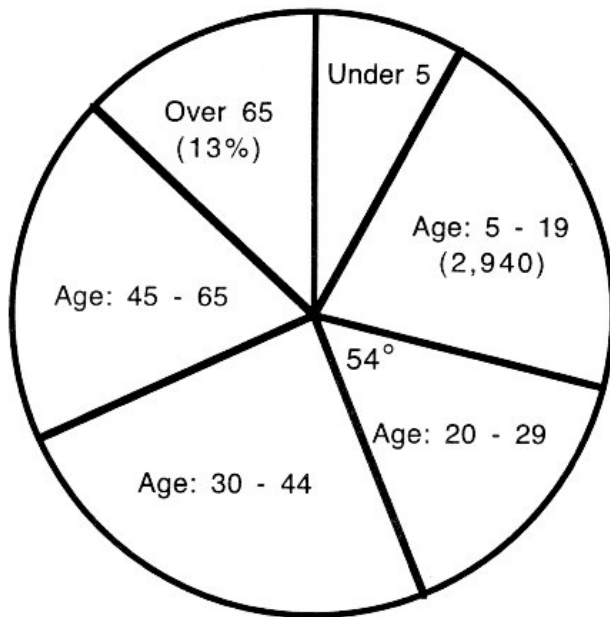
544. The die is rolled once. What is the probability that the numeral on the top side is a prime number? Write your answer as a fraction in simplest form. Fact: 1 is not a prime number.

545. A composite number is a number with more than two different factors or divisors. Find the probability that, on a single roll of the die, the numeral on the top side is a composite number. Write your answer as a fraction in simplest form.

546. The die is rolled 1000 times. About how many times would one expect a divisor of four to appear on the top side?

- A. 125 B. 250 C. 375 D. 500

The circle graph shows the age distribution of the 14,000 residents of Bayview.



Use the information in the graph to answer questions 547 - 550.

547. There were 2,940 residents in the 5-19 age group. What percent of the Bayview population was in this age group?

_____ %

548. The central angle for the sector representing the 20-29 age group is 54 degrees. How many Bayview residents were in this age group?

_____ residents

549. The city of Bayview needed to contact all its residents over the age of 65. How many residents did they need to contact?

_____ residents

550. The number of residents in the 30-44 age group was three times the number of residents in the Under 5 age group. There were 4, 480 residents in these two groups combined. How many Bayview residents were in the Under 5 age group?

_____ residents

551. Five counting numbers are arranged in order from smallest to largest. The median of this set of numbers is 17. The average of the smallest and largest numbers is 11.5 The average of the remaining two numbers is 15.5. Find the sum of the five numbers.

552. What is the largest prime number that is less than 160?

553. Six less than four times a number N is 17. Which equation below should be used to find the value of N?

- A. $4(N - 6) = 17$ B. $4N - 6 = 17$ C. $6 - 4N = 17$ D. $4(6 - N) = 17$

554. Jose tossed a red die and a green die. What is the probability that the red die showed a number greater than two and the green die showed an odd number? Write your answer as a fraction in simplest form.

555. Maurice has a stack of rectangular index cards. Each card measures 3 inches by 5 inches. He places them on a rectangular mat that measures 2 yards by 5 feet. He places the index cards on the mat so that there are no gaps and no overlaps. How many index cards will it take to completely and exactly cover the mat?

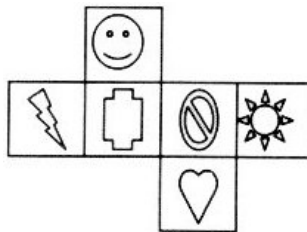
_____ cards

556. Recall that, when a fraction is written in simplest form, both the numerator and denominator are counting numbers. Find the fraction between $\frac{2}{7}$ and $\frac{5}{12}$ which, when written in simplest form, has the smallest denominator. Write the fraction, in simplest form, on the blank to the right.

557. Jackson is on a 1.8 mile hike. His stride (the length of one walking step) is 15 inches. Which of the numbers below best approximates the number of strides Jackson makes in the 1.8 mile hike?
Fact: There are 5,280 feet in one mile.

- A. 4,200 B. 6,600 C. 7,600 D. 11,900

.....
558. The figure to the right was folded to form a box. It was placed so that the smiley face was on top of the box. What shape was on the bottom of the box?



Select your answer from the choices below.

- A.  B.  C.  D. 

Write the letter of the correct choice on the blank to the right.

.....