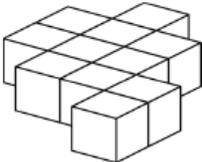
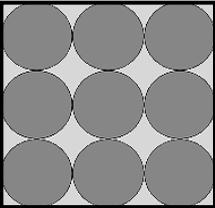


| 5 POINTS | |
|----------|---|
| 1. | How many prime numbers between 0 and 120 have a unit's digit of 7? A. 6 B. 7 C. 8 D. 9 E. 10 |
| 2. | If the total value of an equal number of pennies, nickels, and dimes is \$4.80, what is the value of the pennies alone? A. 20 cents B. 25 cents C. 30 cents D. 35 cents E. 40 cents |
| 3. |  Maya paid \$1,040.95 for a laptop. It included a 9% sales tax. How much tax was charged for the laptop? A. \$85.00 B. \$85.65 C. \$85.75 D. \$85.95 E. \$93.60 |
| 4. | Eleven blocks have been glued together as shown in the picture. How many faces of these blocks have no glue on them?  A. 38 B. 40 C. 42 D. 44 E. 46 |
| 5. | Two analog clocks run at the correct rate of speed. Both clocks show the correct time when it is 9:45 p.m. However, as the hands on one clock run forward, the hands on the other clock run backward. When will both clocks next show the same time?  A. 3:45 a.m. B. 4:15 a.m. C. 9:45 a.m. D. 3:45 p.m. E. 4:15 p.m. |
| 6. | If $\frac{1}{3}$ of my number is 4 more than $\frac{1}{4}$ of my number, my number is _____. A. 24 B. 27 C. 36 D. 48 E. 52 |
| 7. | Palindrome years (like 1991 and 2002) read the same forwards and backwards. The year 2002 was the first palindrome year of the third millennium. The year 2992 will be the last palindrome year of the third millennium. How many palindrome years are there, altogether, in the third millennium? A. 5 B. 9 C. 10 D. 11 E. 20 |
| 8. | Three different colors of jelly beans are placed in a jar. $\frac{3}{5}$ of the jelly beans are green, $\frac{1}{3}$ of the jelly beans are red, and the rest are blue. There are 176 more green jelly beans than blue jelly beans. How many jelly beans are there in the jar altogether? A. 330 B. 328 C. 325 D. 318 E. 314 |

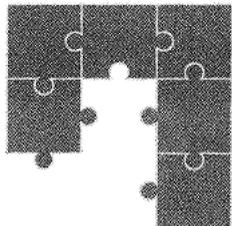
| 7 POINTS | |
|----------|--|
| 9. | Nickolas' monthly salary was increased by 10% last month, and now it is \$4,444. What was his monthly salary before the increase? A. \$3,990.00 B. \$3,999.60 C. \$4,000.00 D. \$4,040.00 E. \$4,400.00 |
| 10. | In a certain month, the dates of three Wednesdays are prime numbers. On which day of the week will the 25 th of the month be?  A. Thursday B. Friday C. Saturday D. Sunday E. Monday |
| 11. | Keya wrote down all the numbers from 30 to 330. How many times did she write the digit 1? A. 300 B. 240 C. 160 D. 150 E. 140 |
| 12. | If the sum of 5 consecutive odd integers is 15, then the smallest integers is _____. A. 3 B. 1 C. -1 D. -2 E. -3 |
| 13. | Trisha is a cheerleader and has a drawer that contains four colors of poms. Ninety are gold, 70 are green, 50 are blue, and 40 are red. She randomly pulls out poms, one at a time, without looking at the colors. What is the fewest number of poms Trisha must remove to be certain that she has at least 5 pairs of matching poms? A. 250 B. 91 C. 20 D. 13 E. 5 |
| 14. | If the area of each of the nine circles is 25π , what is the area of the square shown?  A. 250 B. 500 C. 750 D. 900 E. 1200 |
| 15. | Inside a box of chocolate candies, there are three times as many candies with praline filling as with chocolate milk filling; twice as many with salty caramel filling as with praline filling; and four times as many with nuts as chocolate milk filling. What is the ratio of candies with nuts to the candies with salty caramel filling?  A. 3 : 1 B. 2 : 1 C. 4 : 1 D. 3 : 2 E. 2 : 3 |

10 POINTS

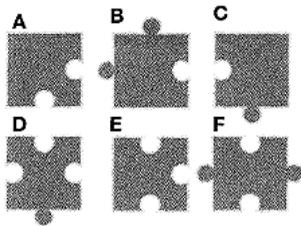
16. What is the product of the least common multiple of 48, 16 and 18 and the greatest common factor of 187, 34, and 51.

- A. 34 B. 119 C. 306 D. 2244 E. 2448

17.



Which three of the pieces on the right can complete the jigsaw and make a perfect square?

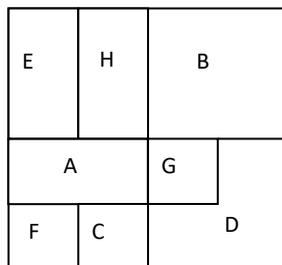


- A. B, C and E B. C, D and E C. A, B and D D. A, E and F E. A, D and E

18. For every 3°C rise in temperature, the volume of a certain gas increases by 4 cubic centimeters. 50 cubic centimeters of this gas at -8°C is heated. The temperature rises from -8°C to 19°C. What is the new volume of the gas at 19°C?

- A. 71 cu.cm B. 79 cu.cm C. 80 cu.cm D. 86 sq. cm E. 86 cu.cm

19. Eight identical square sheets of paper were placed, one at a time, overlapping as shown in the diagram. Which sheet(s) of paper could have been the fifth one placed?



- A. H B. D C. C D. B E. A

20. The front wheel of a tricycle has a diameter of 35 cm; the rear wheels have a diameter of 14 cm. If the tricycle travels 77 m, how many more rotations will the rear wheels make than the front wheel (take $\pi = \frac{22}{7}$)?



- A. 105 B. 97 C. 85 D. 75 E. 31

MATH CHALLENGE TOURNAMENT®

FALL 2019



Problem Solving Challenge

Grade 6

Problem 1 – 20

Do not begin until you are instructed to do so.

40 minutes

You may use scratch paper to do any calculation to reach final answers.

Mark your answers in the ANSWER SHEET.

You have 40 minutes to complete the Problem-Solving Challenge