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| 1. | What is the sum of 3 interior angles of any square? |
|  | A. | 900 | B. | 1800 | C. | 2700 | D. | 3600 | E. | 4500 |
| 2. | Increasing each of the 5 numbers by 3, the sum of the 5 numbers will increase by what number? |
|  | A. | 5 | B. | 10 | C. | 8 | D. | 15 | E. | 125 |
| 3. | What number is always impossible to get when you add two counting odd numbers? |
|  | A. | Divisible by 3 | B. | even | C. | zero | D. | prime  | E. | composite |
| 4. | Students are given 1 hour to complete a test with 50 questions. What is the average amount of time they should spend on each question? |
|  | A. | 50 *minutes* | B. | $$1\frac{1}{5} minutes$$ | C. | $$\frac{5}{6} minutes$$ | D. | $$\frac{1}{60} minutes$$ | E. | 1.1 *minutes* |
| 5. | If Cindy’s age is divided by 4, the remainder is 2. What age is impossible for Cindy? |
|  | A. | 10 | B. | 13 | C. | 18 | D. | 6 | E. | 14 |
| 6. | How many sheets of paper will I need to print both sides of my document that is 37 pages? |
|  | A. | 37 | B. | 17 | C. | 18 | D. | 19 | E. | 18.5 |
| 7. | Sally is a third grader. Her dad’s age is a prime number. How old can he be? |
|  | A. | 11 | B. | 46 | C. | 47 | D. | 49 | E. | 51 |
| 8. | The number midway between 3 and 11 is \_\_\_\_. |
|  | A. | 6 | B. | 8 | C. | 4 | D. | 5 | E. | 7 |
| 9. | Angela is counting her coins. She has 7 coins with a total value of 77 cents. If her largest coin is a quarter, how many nickels does she have? |
|  | A. | 1 | B. | 3 | C. | 2 | D. | 0 | E. | 4 |
| 10. | Decagon has twice as many sides as \_\_\_\_\_\_\_\_. |
|  | A. | quadrilateral | B. | square | C. | rhombus | D. | pentagon | E. | triangle |
| 11. | Andy bought 64 ounces of sugar. How many pounds of sugar did he buy? |
|  | A. | 32 lb. | B. | 4 lb. | C. | 16 lb. | D. | 32 lb. | E. | 8 lb. |
| 12. | Round 3980F to the nearest 100F. |
|  | A. | 3950F | B. | 3900F | C. | 4050F | D. | 4000C | E. | 4000F |
| 13. | If today is Monday, what day of the week will it be in nineteen days? |
|  | A. | Monday | B. | Wednesday | C. | Friday | D. | Sunday | E. | Saturday |
| 14. | Half the sum of the degree-measures of the angles of an isosceles triangle is \_\_\_\_\_. |
|  | A. | 450 | B. | 800 | C. | 900 | D. | 1800 | E. | 3600 |
| 15. | What is the ones digit of the product 2015 × 2016 × 2017 × 2018? |
|  | A. | 0 | B. | 1 | C. | 6 | D. | 8 | E. | 2 |
| 16. | As a reduced fraction, what is the sum of one fourth and one sixteenth? |
|  | A. | $$\frac{1}{10}$$ | B. | $$\frac{5}{16}$$ | C. | $$\frac{1}{20}$$ | D. | $$\frac{1}{64}$$ | E. | $$\frac{1}{8}$$ |
| 17. | A 2-meter long piece of ribbon was cut into 1/10-meter-long strips. How many such pieces were cut? |
|  | A. | 10 | B. | 20 | C. | 2 | D. | 12 | E. | 200 |
| 18. | What is the missing number? $ 63÷81= \frac{?}{27}$ |
|  | A. | 9 | B. | 24 | C. | 21 | D. | 3 | E. | 18 |
| 19. | A square with a perimeter of 36 inches is divided into 3 by 3 smaller squares. What is the perimeter of 1 small square? |
|  | A. | 4 in. | B. | 6 in. | C. | 9 in. | D. | 8 in. | E. | 12 in. |
| 20. | How many even 2-digit counting numbers are there? |
|  | A. | 50 | B. | 46 | C. | 44 | D. | 45 | E. | 90 |
| 21. | Alex has in his pocket $5 bill, 5 quarters, 5 nickels, 5 pennies. How much money does he have in his pocket? |
|  | A. | $6.25 | B. | $6.75 | C. | $7.00 | D. | $5.20 | E. | $6.55 |
| 22. | The speed of a sparrow is 19.5 feet per second, and the speed of a hummingbird is 1.5 times faster. How many more feet per second does the hummingbird fly if compared to a sparrow? |
|  | A. | 9.75 ft. | B. | 29.25 ft.  | C. | 48.75 ft. | D. | 30 ft. | E. | 12 ft. |
| 23. | What is the next number in the following sequence: 10.3, 8.9, 7.5, 6.1, \_\_\_\_\_\_?  |
|  | A. | 5.2 | B. | 4.9 | C. | 4.7 | D. | 5.7 | E. | 6.7 |
| 24. | The average cost of 4 pens is $2.40. What is the total cost of the pens? |
|  | A. | $9.60 | B. | $0.60 | C. | $0.80 | D. | $2.40 | E. | $4.80 |
| 25. | A photographer can develop 72 photos in 3 hours. How many photos can he develop in 1 and a half hours if he is consistent with his developing speed? |
|  | A. | 30 | B. | 28 | C. | 24 | D. | 36 | E. |  48 |
| 26. | There are 800 seats in a theater. 200 seats were sold. What percent of the seats were vacant?  |
|  | A. | 600 | B. | 6/8 | C. | 75% | D. | 60% | E. | 20% |
| 27. | How many circles with the radius of 1 inch can fit in a circle with the diameter 4 inches? |
|  | A. | 5 | B. | 4 | C. | 2 | D. | 3 | E. | 6 |
| 28. | In a number 93,672,154 cross out 3 digits to get the biggest possible number. What number will it be if you are not allowed to rearrange the digits? |
|  | A. | 96,754 | B. | 97,254 | C. | 97,654 | D. | 97,215 | E. | 96,725 |
| 29. | A dad is three times older than his son. At the same time, his son is 34 years younger than dad. How old is the son now? |
|  | A. | 10 | B. | 12 | C. | 51 | D. | 17 | E. | 34 |
| 30. | The sum of 2 prime numbers is 39. What is the biggest prime number in this sum? |
|  | A. | 2 | B. | 19 | C. | 13 | D. | 17 | E. | 37 |
| 31. | How many edges are there in 2 rectangular prisms? |
|  | A. | 24 | B. | 28 | C. | 12 | D. | 16 | E. | 20 |
| 32. | How many all possible diagonals can you draw in octagon? |
|  | A. | 8 | B. | 10 | C. | 20 | D. | 16 | E. | 32 |
| 33. | Grandma is 61, her grandson is 17. How many years ago was the grandson 5 times younger than his grandma? |
|  | A. | 5 | B. | 11 | C. | 12 | D. | 6 | E. | 17 |
| 34. | What is the sum of all the edges of a rectangular prism with the edges 5 in., 5 in., and 6 in.? |
|  | A. | 150 in | B. | 64 in | C. | 16 in | D. | 32 in | E. | 125 in |
| 35. | One side of the square was increased by 4 inches, and the other side was decreased by 2 inches. The area of this new rectangle is 16 in2. How many inches is the side of the original square? |
|  | A. | 6 | B. | 4 | C. | 2 | D. | 8 | E. | 5 |
| 36. | What percent of the 2-and-a-half-hour concert will I see if I’m half an hour late? |
|  | A. | 80% | B. | 70% | C. | 90% | D. | 50% | E. | 20% |
| 37. | In the number 20172018, the ratio of odd digits to the even digits is: |
|  | A. | 4 : 4 | B. | 3 : 3 | C. | 3 : 5 | D. | 5 : 3 | E. | 2 : 6 |
| 38. | How many 3-digit numbers can you create from the digits 2,3,0,4 if the digits do not repeat? |
|  | A. | 18 | B. | 24 | C. | 64 | D. | 12 | E. | 27 |
| 39. | The lengths of the three sides of the triangle could *not* be |
|  | A. | 1, 1, 3 | B. | 2, 2, 3 | C. | 3, 3, 3 | D. | 4, 4, 3 | E. | 2, 1, 2.5 |
| 40. |  What is the ones digit of 210? |
|  | A. | 1 | B. | 2 | C. | 6 | D. | 8 | E. | 4 |

**MATH CHALLENGE TOURNAMENT**

**FALL 2017**

**MENTAL MATH CHALLENGE**

**Grade 5**

Sponsored by Ellipsis Academy



**LAST NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**FIRST NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**School: \_\_\_\_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_\_\_\_\_\_\_\_\_Grade: \_\_\_\_\_\_\_\_**

***Mental Math Challenge (15 minutes)***

Mark your answers on the answer sheet.

You may not do any written work.

Solve as many problems as you can.

**Correct answer: 2 points**

**Blank answer: 0 point**

**Incorrect answer: 0 point**