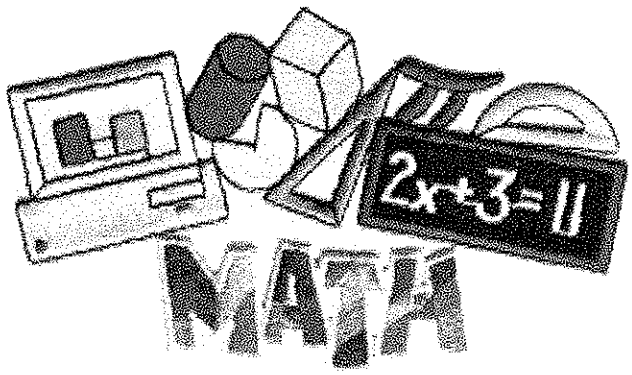
Place Contestant ID Label HERE
BEFORE Contest Begins.

PSIA
Private Schools
Interscholastic
Association

Mathematics
DISTRICT Contest
Grades 4 & 5



2021

FINAL SCORE: _____

(Please do not open test until the signal is given to begin.)

Directions: Choose the best answer for each of the following problems. Choice E is "NOT" for "None of these".

1. $623 - 487 =$

   A. 156 B. 146 C. 136 D. 126 E. NOT

2. $175 + 275 + 375 =$

   A. 875 B. 825 C. 775 D. 725 E. NOT

3. Round 87,518 to the nearest hundred's place.

   A. 88,000 B. 87,000 C. 87,600 D. 87,500 E. NOT

4. What is the sum of "three hundred twenty-three" and "four thousand, sixteen"?

   A. 4449 B. 4349 C. 4339 D. 4439 E. NOT

5. How many quarters are equal to the same value as seventeen dimes and a nickel?

   A. 11 B. 9 C. 7 D. 5 E. NOT

6. $112 \times 7 =$

   A. 784 B. 794 C. 884 D. 894 E. NOT

7. $751 - 594 =$

   A. 257 B. 247 C. 157 D. 167 E. NOT

8. Crystal has a recipe for cookies. Each batch of dough makes 4 dozen cookies. How many cookies will she bake if she makes $2\frac{1}{2}$ batches of dough?

A. 120 B. 144 C. 132 D. 108 E. NOT

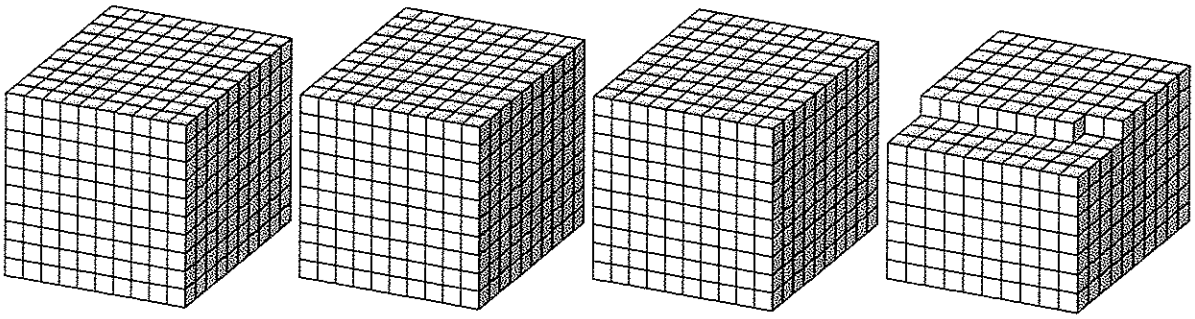
9. $\frac{1}{2} - \frac{1}{5} =$

A. $\frac{3}{10}$ B. $\frac{1}{3}$ C. $\frac{2}{5}$ D. $\frac{1}{10}$ E. NOT

10. CLXIX – XLVII =

A. CXII B. CXXI C. CXXIV D. CXXIX E. NOT

11. Each individual cube represents 1. What number is shown?



A. 3786 B. 3867 C. 3678 D. 3768 E. NOT

12. Which property is shown? $\left(-\frac{1}{8}\right) \times 1 = -\frac{1}{8}$

A. multiplicative inverse B. multiplicative identity

C. associative D. commutative E. NOT

13. Reduce $\frac{216}{360}$ to lowest terms.

A. $\frac{1}{2}$ B. $\frac{3}{5}$ C. $\frac{3}{4}$ D. $\frac{2}{3}$ E. NOT

14. $(17 - 1^2) \times \frac{3+2}{5^2 - 5} =$

A. 8 B. 6 C. 4 D. 3 E. NOT

15. $3393 \div 9 =$

A. 388 B. 387 C. 378 D. 377 E. NOT

16. Which of the following is not a divisor of 168?

A. 24 B. 36 C. 42 D. 56 E. NOT

17. $7\frac{3}{8}$ liters = _____ milliliters

A. 7375 B. 7250 C. 7333 D. 7125 E. NOT

18. An airplane travels at 240 mph. How long does it take to travel 420 miles?

A. $1\frac{2}{3}$ hours B. $1\frac{3}{4}$ hours C. $1\frac{5}{6}$ hours D. 2 hours E. NOT

19. A rectangle has length 12 cm and width 7 cm. What is the area of the rectangle?

A. 84 cm^2 B. 38 cm^2 C. 72 cm^2 D. 96 cm^2 E. NOT

20. $72 \times 55 \div 9 =$

A. 360 B. 400 C. 440 D. 480 E. NOT

21. Each taco costs T dollars and each enchilada costs E dollars. How much will 6 enchiladas and 8 tacos cost?

A. $\frac{T}{8} + \frac{E}{6}$ B. $\frac{T}{6} + \frac{E}{8}$ C. $8T + 6E$ D. $6T + 8E$ E. NOT

22. What is the mean of 22, 32, 33, 35, and 48?

A. 31 B. 32 C. 33 D. 34 E. NOT

23. Evaluate $x^2 + 2xy + y^2$ when $x = 34$ and $y = 16$.

A. 2396 B. 2500 C. 2601 D. 2496 E. NOT

24. $1\frac{2}{3} \div 1\frac{3}{5} =$

A. $\frac{11}{12}$ B. $1\frac{1}{12}$ C. $1\frac{1}{24}$ D. $\frac{23}{24}$ E. NOT

25. $6\frac{1}{2} \times 4\frac{1}{2} =$

A. $30\frac{1}{4}$ B. $29\frac{1}{4}$ C. $24\frac{1}{4}$ D. $27\frac{1}{4}$ E. NOT

26. How many subsets of the set {4, 8, 12, 16, 20} have exactly 3 elements?

A. 15 B. 6 C. 10 D. 12 E. NOT

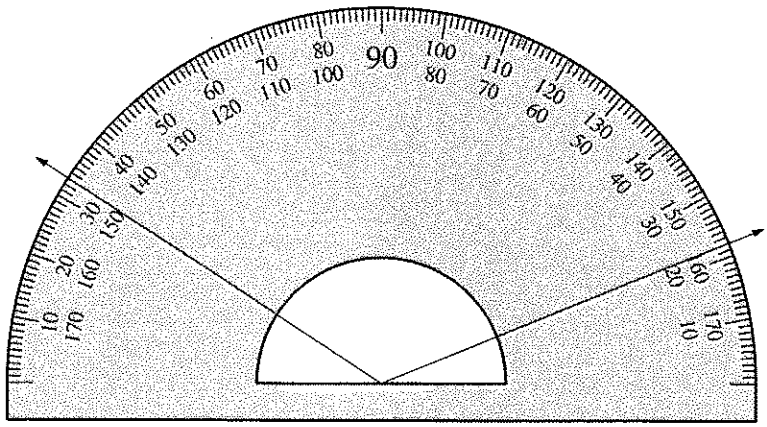
27. Kenny has 12 coins (pennies, nickels, dimes, and quarters). What is the largest amount of money he could possibly have that is less than \$1.00?

A. 96¢ B. 97¢ C. 98¢ D. 99¢ E. NOT

28. $101 + 102 + 103 + 104 + \ldots + 200 =$

A. 15050 B. 16050 C. 15450 D. 16450 E. NOT

29. Find the measure of the angle between the two rays.



A. 125° B. 127° C. 131° D. 133° E. NOT

30. The fraction $\frac{173}{500} = \frac{x}{10} + \frac{y}{100} + \frac{z}{1000}$, where x, y, and z are single (positive) digits. What is the value of $(x + y) - z$?

A. 13 B. 9 C. 5 D. 1 E. NOT

31. What is the remainder when 831457 is divided by 11?

A. 2 B. 5 C. 8 D. 0 E. NOT

32. A bag contains 16 red tokens, 24 yellow tokens, and 8 blue tokens. One token is selected at random. What is the probability of getting a red token?

A. $\frac{1}{4}$ B. $\frac{1}{3}$ C. $\frac{1}{6}$ D. $\frac{1}{2}$ E. NOT

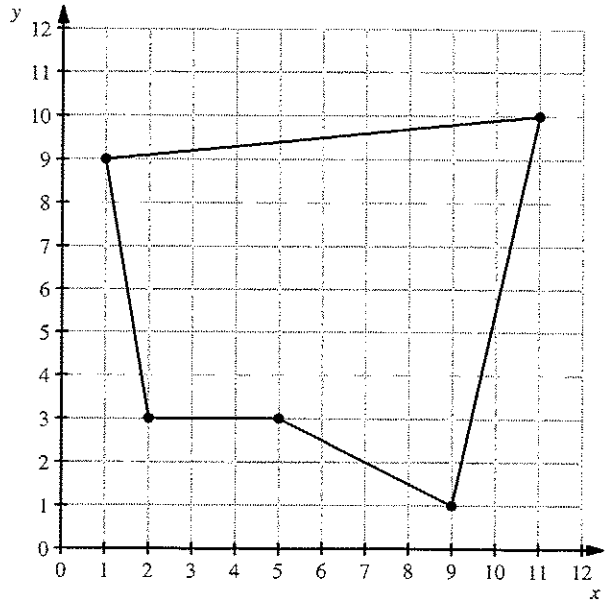
33. What is the largest prime factor of $5^4 \times 5^3 + 5^3 \times 5^2 + 5^2 \times 5^1$?

A. 43 B. 37 C. 31 D. 29 E. NOT

34. What is the 9th term in the sequence $\frac{2}{3}, \frac{4}{5}, \frac{6}{7}, \frac{8}{9}, \ldots$?

A. $\frac{16}{15}$ B. $\frac{18}{17}$ C. $\frac{16}{17}$ D. $\frac{18}{19}$ E. NOT

35. Find the area of the figure shown.



A. 57
B. 59
C. 61
D. 63
E. NOT

36. If $x^2y = 5$ and $xy^2 = 12\frac{4}{5}$, what is the value of xy?

A. $5\frac{1}{5}$ B. $4\frac{1}{5}$ C. 5 D. 4 E. NOT

37. $\left(18 \times 2\frac{3}{8}\right) + \left(16 \times 2\frac{3}{8}\right) + \left(14 \times 2\frac{3}{8}\right) =$

A. 120 B. 118 C. 116 D. 114 E. NOT

38. Amir and Pedro leave the camp at the same time. Amir hikes south at 80 feet per minute. Pedro hikes west at 60 feet per minute. How far apart are they after 5 minutes?

A. 700 feet B. 500 feet C. 640 feet D. 480 feet E. NOT

39. A square has an area of 200 cm^2. Its sides are increased by 20%. What is the new area?

A. 288 cm^2 B. 240 cm^2 C. 280 cm^2 D. 244 cm^2 E. NOT

40. Sofia, Ivy, Mila, and Penelope are going to sit in 4 chairs in a row. Ivy wants to sit on one of the ends of the row, but does not care which end it is. Sofia does not want to sit next to Penelope. How many ways can the girls be seated while meeting these requests?

A. 4 B. 8 C. 2 D. 6 E. NOT

PSIA Mathematics Grades 4 & 5 Contest
Student Answer Sheet

CONTESTANT ID#:_____ **GRADE LEVEL:**_____

INSTRUCTIONS: Place the **printed** CAPITAL letter of each answer choice (A, B, C, or D) in the blank corresponding to the test item number. **SCORING:** +5 for each correct answer; -2 for each incorrect answer; no deduction is taken for skipped or unanswered items. Visible erasures and mark-outs constitute a 2-point deduction ONLY if a correct answer is not written in the answer space.

1. _____	**16.** _____	**31.** _____
2. _____	**17.** _____	**32.** _____
3. _____	**18.** _____	**33.** _____
4. _____	**19.** _____	**34.** _____
5. _____	**20.** _____	**35.** _____
6. _____	**21.** _____	**36.** _____
7. _____	**22.** _____	**37.** _____
8. _____	**23.** _____	**38.** _____
9. _____	**24.** _____	**39.** _____
10. _____	**25.** _____	**40.** _____
11. _____	**26.** _____	**SCORE / INITIALS:**
12. _____	**27.** _____	**Grader #1:** _____ ____
13. _____	**28.** _____	**Grader #2:** _____ ____
14. _____	**29.** _____	**Grader #3:** _____ ____
15. _____	**30.** _____	**Official Score:** _____

Contest Director ONLY: Match school & name AFTER tests are scored: _____

PSIA Mathematics Contest
Grades 4 & 5
DISTRICT – 2021
Answer Key

Scoring: +5 for each correct answer; -2 for each incorrect answer; no points are deducted for skipped or unanswered items. Deduct 2 points for erasures and mark-outs that do not result in a correct answer.

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1. C	16. B	31. D
2. B	17. A	32. B
3. D	18. B	33. C
4. C	19. A	34. D
5. C	20. C	35. C
6. A	21. C	36. D
7. C	22. D	37. D
8. A	23. B	38. B
9. A	24. C	39. A
10. E (CXXII)	25. B	40. A
11. D	26. C	
12. B	27. D	
13. B	28. A	
14. C	29. A	
15. D	30. D	