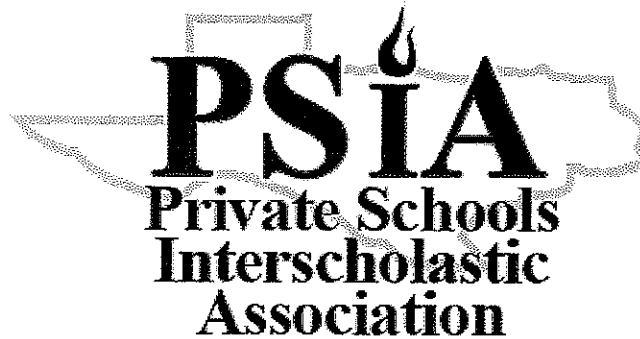


CONTESTANT ID #: \_\_\_\_\_

GRADE LEVEL : \_\_\_\_\_

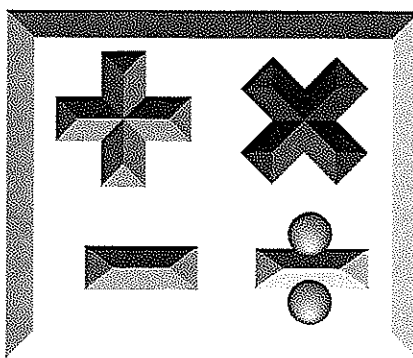
*Place Contestant ID label here BEFORE  
Contest Begins*



# Mathematics

## District Contest

Grades 4-5



2023

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.  $39 + 42 + 43 =$

- A. 116                  B. 114                  C. 126                  D. 124                  E. NOT

2.  $2476 - 997 =$

- A. 1479                  B. 1473                  C. 1579                  D. 1573                  E. NOT

3. Which is the largest?

- A. forty thousand, thirty                  B. forty thousand, thirteen  
C. fourteen thousand, thirty                  D. fourteen thousand, thirteen                  E. NOT

4. How many nickels are worth the same as 7 quarters, 8 half-dollars, and 6 dimes?

- A. 125                  B. 126                  C. 127                  D. 128                  E. NOT

5. Round  $7\frac{3}{8}$  to the nearest tenth's place.

- A. 7.3                  B. 7.4                  C. 7.5                  D. 7.6                  E. NOT

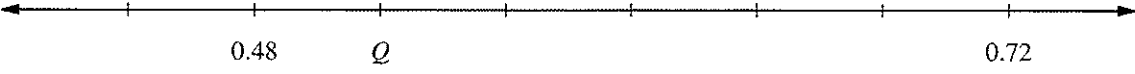
6. Errol bought two buckets of golf balls to hit on the driving range. Each bucket contains 4 dozen balls. He hit 71 balls before he had to leave. How many balls did he have left?

- A. 25                  B. 21                  C. 15                  D. 33                  E. NOT

7.  $8 \times 26 =$

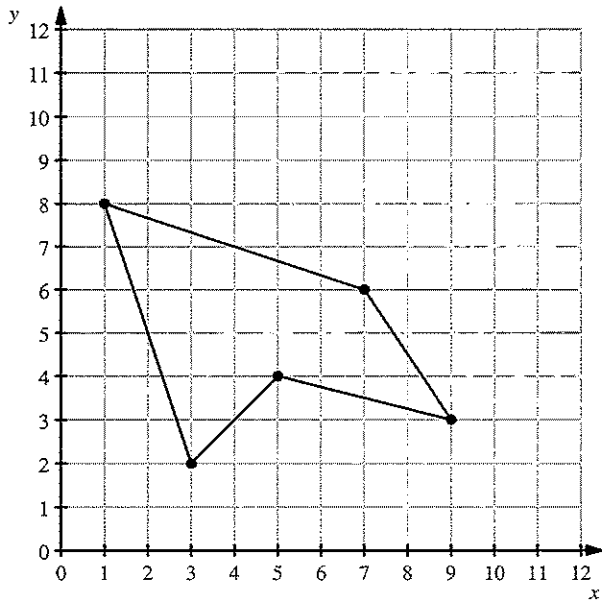
- A. 194                  B. 204                  C. 198                  D. 208                  E. NOT

8.  $717 + 818 + 919 - 14 - 18 - 22 =$
- A. 2200      B. 2300      C. 2400      D. 2500      E. NOT
9.  $\frac{7}{9} - \frac{3}{5} =$
- A.  $\frac{8}{45}$       B.  $\frac{7}{45}$       C.  $\frac{4}{15}$       D.  $\frac{1}{3}$       E. NOT
10. If  $Q = 5$ , what is the value of  $Q^2 - 4Q$ ?
- A.  $Q$       B.  $Q + 3$       C.  $2Q$       D.  $3Q$       E. NOT
11.  $744 =$  \_\_\_\_\_ (Roman numerals)
- A. DCCXLIV      B. DCCLXIV      C. MCCXLIV      D. MCCLXIV      E. NOT
12. A piece of rope 5 yards 1 foot 9 inches long is cut from a rope 7 yards 2 feet 1 inch long. How long is the remaining rope?
- A. 2 yards 4 inches      B. 2 yards 2 inches
- C. 2 feet 4 inches      D. 2 feet 2 inches      E. NOT
13. Sena has 17 toys. Her brother Jimin has  $T$  toys. How many total toys do they have together?
- A.  $17 \div T$       B.  $17 \times T$       C.  $17 - T$       D.  $17 + T$       E. NOT
14. What is the median of 48, 62, 58, and 76?
- A. 58      B. 60      C. 61      D. 62      E. NOT
15. If  $C$  and  $D$  represent single digits and  $CD \times CCD = 11725$ , what is  $C + D$ ?
- A. 7      B. 8      C. 9      D. 10      E. NOT

16. A bin contains 3 red chips, 3 yellow chips, and 6 blue chips. A chip is drawn out of the bin. What is the probability the chip is NOT yellow?
- A.  $\frac{2}{3}$       B.  $\frac{1}{3}$       C.  $\frac{3}{4}$       D.  $\frac{1}{4}$       E. NOT
17. It take Rudi 46 minutes to play four holes of golf. How long will it take her to play six holes of golf, assuming each hole takes the same amount of time?
- A. 64 minutes      B. 69 minutes      C. 75 minutes      D. 79 minutes      E. NOT
18. What is the remainder when 39411 is divided by 13?
- A. 6      B. 8      C. 10      D. 12      E. NOT
19. 18% of what number equals 36?
- A. 200      B. 250      C. 180      D. 300      E. NOT
20.  $\frac{5^2 - 1 \times 4}{\sqrt{49}} =$
- A. 3      B. 2      C. 5      D. 4      E. NOT
21.  $(9 \times 10^{-2}) + (7 \times 10^{-3}) =$  \_\_\_\_\_ (decimal)
- A. 0.97      B. 0.907      C. 0.097      D. 0.0097      E. NOT
22. What decimal number is located at  $Q$  on the number line. [Hash marks are evenly spaced]
- 
- A. 0.58      B. 0.56      C. 0.54      D. 0.52      E. NOT

23. Which of the following symbols makes the statement true?  $\frac{7}{9} \times \frac{6}{13} \square \frac{7}{9} \times \frac{4}{11}$
- A. >      B. <      C. =      D. Cannot be determined      E. NOT
24. How many positive integral divisors does  $4^3 \times 30$  have?
- A. 28      B. 32      C. 8      D. 18      E. NOT
25. If  $x = 17$  and  $y = 3$ , what is the value of  $x^2 + 2xy + y^2$ ?
- A. 484      B. 409      C. 400      D. 324      E. NOT
26. What is the area of a right triangle whose hypotenuse is 10 cm and whose leg is 6 cm?
- A.  $64 \text{ cm}^2$       B.  $18 \text{ cm}^2$       C.  $30 \text{ cm}^2$       D.  $24 \text{ cm}^2$       E. NOT
27. How many subsets of {h, o, c, k, e, y} have exactly 3 elements?
- A. 120      B. 60      C. 30      D. 20      E. NOT
28. What is the sum of all (positive) 2-digit numbers that are divisible by 9?
- A. 585      B. 612      C. 594      D. 630      E. NOT
29. Hamburger buns come in packages of 12. Hamburger patties come in packages of 10. What is the least (positive) number of packages of buns that should be bought so that, when the appropriate number of packages of patties are purchased and hamburgers are made, there are no left over buns or patties?
- A. 5      B. 6      C. 8      D. 10      E. NOT

30. Find the area of the figure shown.

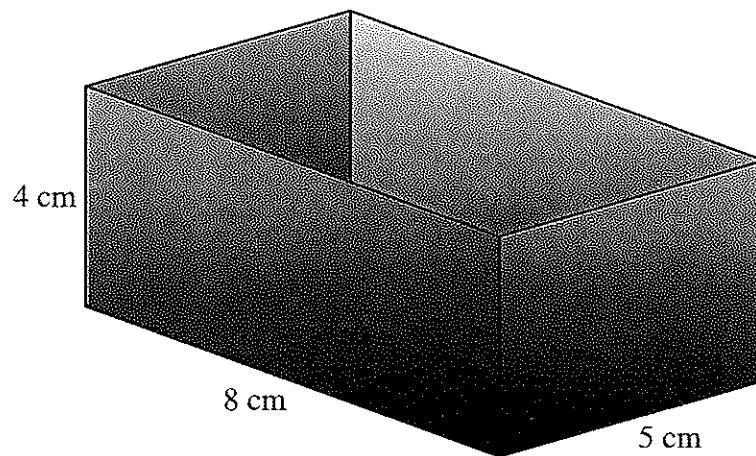


- A. 19
- B. 20
- C. 21
- D. 22
- E. NOT

31.  $7\frac{3}{4}$  gallons = \_\_\_\_\_ pints

- A. 60
- B. 61
- C. 62
- D. 63
- E. NOT

32. What is the volume of the cardboard box shown?

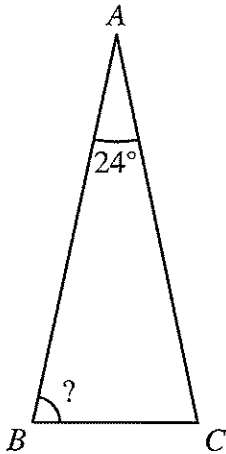


- A.  $160 \text{ cm}^3$
- B.  $140 \text{ cm}^3$
- C.  $120 \text{ cm}^3$
- D.  $200 \text{ cm}^3$
- E. NOT

33. A pair of dice are tossed. What is the probability of getting a sum of “5”?

- A.  $\frac{1}{5}$       B.  $\frac{1}{9}$       C.  $\frac{1}{18}$       D.  $\frac{1}{12}$       E. NOT

34.  $\triangle ABC$  is isosceles. What is the measure of angle  $B$ ?



- A.  $72^\circ$   
B.  $74^\circ$   
C.  $76^\circ$   
D.  $78^\circ$   
E. NOT

35. In a survey of 120 sports drink drinkers, 87 said they like the Fruit Punch flavor, 83 said they like the Orange flavor, and 56 said they like both the Fruit Punch and Orange flavors. How many do not like either Fruit Punch or Orange flavors?

- A. 4      B. 5      C. 6      D. 7      E. NOT

36. Let  $O$  be the set of odd numbers and  $P$  be the set of prime (natural) numbers. How many elements are in  $O \cap P$ ?

- A. unknown      B. infinitely many      C. 1      D. 0      E. NOT

37.  $\frac{45^3}{5 \times 9^2} =$

- A. 225      B. 45      C. 2025      D. 135      E. NOT

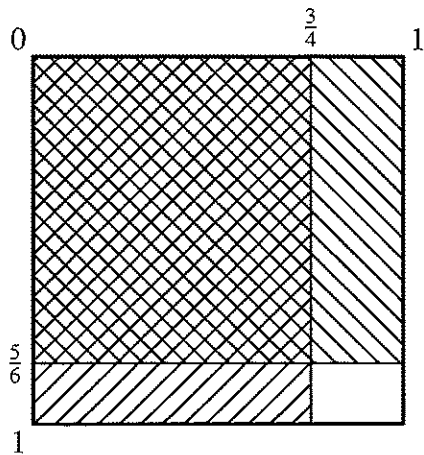
38.  $8\frac{1}{3} \div 1\frac{1}{3} =$

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

39. What is the 14th term in the sequence  $\frac{1}{2}, \frac{3}{4}, \frac{5}{6}, \frac{7}{8}, \dots$ ?

- A.  $\frac{13}{14}$       B.  $\frac{13}{28}$       C.  $\frac{13}{14}$       D.  $\frac{27}{28}$       E. NOT

40. What fraction of the square is cross-hatched?



- A.  $\frac{5}{8}$   
 B.  $\frac{7}{9}$   
 C.  $\frac{7}{12}$   
 D.  $\frac{2}{3}$   
 E. NOT





# Mathematics Grades 4-5

## District Contest

### Contestant Answer Sheet

GRADERS: Write scores and initial.

Score 1: \_\_\_\_\_

Score 3: \_\_\_\_\_

Score 2: \_\_\_\_\_

FINAL: \_\_\_\_\_

Contestant ID: \_\_\_\_\_ Grade Level: \_\_\_\_\_

INSTRUCTIONS: Place the PRINTED CAPITAL letter of each answer choice (A, B, C, D, or E) in the blank corresponding to the test item number. SCORING: +5 for each correct answer; -2 for each incorrect answer; no deduction 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. _____ |           |
| 12. _____ | 27. _____ |           |
| 13. _____ | 28. _____ |           |
| 14. _____ | 29. _____ |           |
| 15. _____ | 30. _____ |           |



**Mathematics Grades 4-5**  
**District 2023**

***ANSWER KEY***

REMINDERS: PRINTED CAPITAL letters only. SCORING: +5 for each correct answer; -2 for each incorrect answer; no deduction 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. <b>D</b>  | 16. <b>C</b> | 31. <b>C</b> |
| 2. <b>A</b>  | 17. <b>B</b> | 32. <b>A</b> |
| 3. <b>A</b>  | 18. <b>B</b> | 33. <b>B</b> |
| 4. <b>C</b>  | 19. <b>A</b> | 34. <b>D</b> |
| 5. <b>B</b>  | 20. <b>A</b> | 35. <b>C</b> |
| 6. <b>A</b>  | 21. <b>C</b> | 36. <b>B</b> |
| 7. <b>D</b>  | 22. <b>D</b> | 37. <b>A</b> |
| 8. <b>C</b>  | 23. <b>A</b> | 38. <b>A</b> |
| 9. <b>A</b>  | 24. <b>B</b> | 39. <b>D</b> |
| 10. <b>A</b> | 25. <b>C</b> | 40. <b>A</b> |
| 11. <b>A</b> | 26. <b>D</b> |              |
| 12. <b>A</b> | 27. <b>D</b> |              |
| 13. <b>D</b> | 28. <b>A</b> |              |
| 14. <b>B</b> | 29. <b>A</b> |              |
| 15. <b>B</b> | 30. <b>C</b> |              |