PSIA

25 YEARS
Inspiring Student Achievement

Mathematics

State Contest

Grades 2-3

99×99+99=
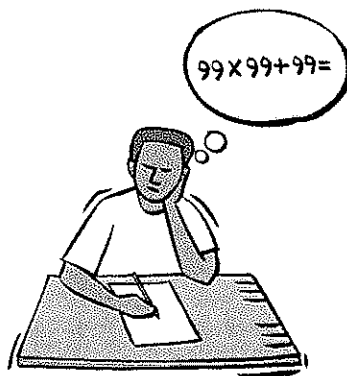
2022

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.

1. $92 - 68 =$

   A. 24   **B.** 30   **C.** 20   **D.** 34

2. $142 + 289 =$

   A. 321   **B.** 421   **C.** 331   **D.** 431

3. What digit is in the ten's place of 5342?

   A. 4   **B.** 5   **C.** 2   **D.** 3

4. $37 = $ _____ (Roman numerals)

   A. XXXIIIIIII   **B.** XVIXXI   **C.** XXXVII   **D.** XXXIIV

5. $756 - 355 + 512 =$

   A. 933   **B.** 833   **C.** 913   **D.** 813

6. What is the sum of the numbers represented by the blocks?
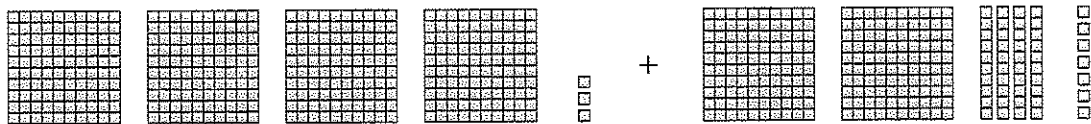
   A. 640   **B.** 650   **C.** 660   **D.** 670

7. $798 + 394 + 599 =$

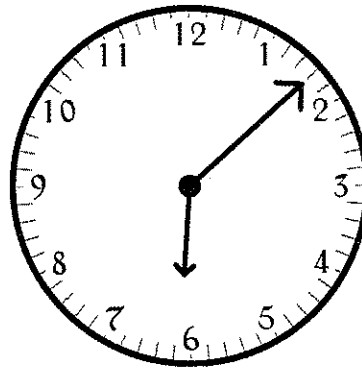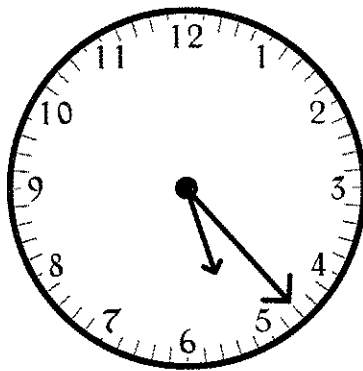   **A.** 1691   **B.** 1791   **C.** 1681   **D.** 1781

8. Which of the following is a unit of weight?

    A. volt   **B.** hour   **C.** meter   **D.** ounce

9. Liz left work and arrived home at the times shown below. How long did it take her to get home?

    A. 42 minutes   **B.** 45 minutes   **C.** 52 minutes   **D.** 55 minutes

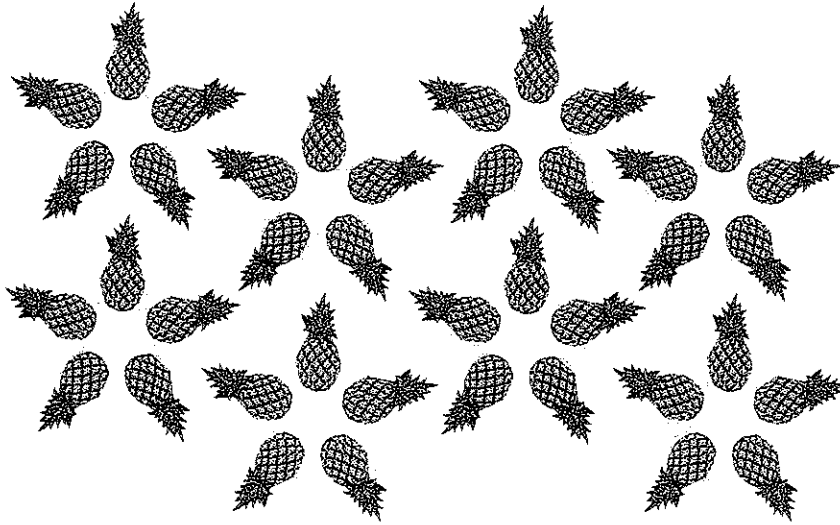10. What single digit goes in each box to make the statement true? $\square 2 \square + 6 \square 3 + \square\square 5 = 21\square 5$

    A. 9   **B.** 4   **C.** 8   **D.** 7

11. $32 \times 8 =$

    A. 256   **B.** 266   **C.** 276   **D.** 286

12. How many pineapples are shown?

    A. 40   **B.** 32   **C.** 35   **D.** 42

13. Jim has fifteen more books than twice the number of books Tony has. Tony has thirteen books. How many books does Jim have?

    A. 56   **B.** 41   **C.** 48   **D.** 36

14. Which is a multiple of 7?

    A. 25   **B.** 32   **C.** 28   **D.** 30

15. Who has the most money?

Sarah:

Kelly:

Heather:

Wanda:

A. Wanda   B. Heather   C. Kelly   D. Sarah
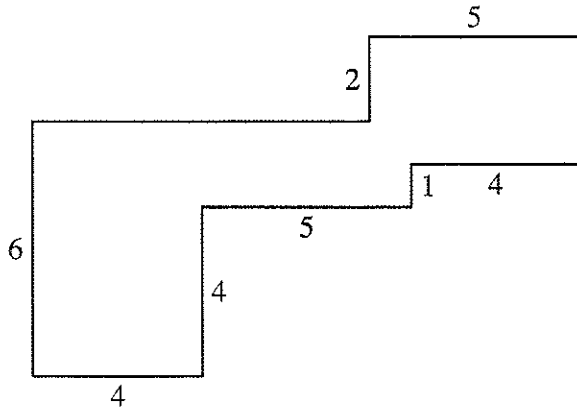
16. $24 \times 13 =$

A. 312   B. 322   C. 332   D. 342

17. Find the area.

A. 46

B. 48

C. 50

D. 52

18. What number goes in the box?   ☐ + 38 + 74 = 183

    A. 61   B. 65   C. 71   D. 75

19. Each apple costs 82¢. How much will seven apples cost?

    A. $5.86   B. $5.94   C. $5.56   D. $5.74

20. What is the 73rd number in the sequence 5, 10, 15, 20, ...?

    A. 365   B. 370   C. 355   D. 360

21. $148 \div 4 =$

    A. 37   B. 33   C. 41   D. 39

22. Each box holds 9 oranges. How many boxes are needed to hold 351 oranges?

    A. 37   B. 33   C. 41   D. 39

23. $21 \times 36 \div 12 =$

   A. 72   **B.** 63   **C.** 66   **D.** 57
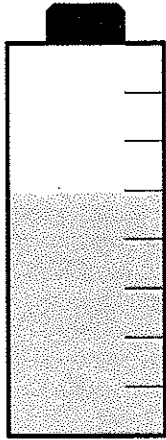
24. The digits 1, 5, 2, 9, and 6 are re-arranged to form 5-digit numbers. What is the second largest possible number that can be formed?

   A. 96215   **B.** 96251   **C.** 96521   **D.** 96512

25. Reduce $\dfrac{288}{424}$ to lowest terms.

   A. $\dfrac{36}{53}$ **B.** $\dfrac{53}{80}$ **C.** $\dfrac{31}{47}$ **D.** $\dfrac{39}{59}$

26. What fraction of the bottle is empty?

   A. $\dfrac{5}{8}$ B. $\dfrac{3}{8}$

   C. $\dfrac{3}{7}$ D. $\dfrac{4}{7}$

27. Leticia's teacher wrote the names of all the students in her class on individual slips of paper. Each student's name was on exactly one slip. There are 16 students in class. The teacher draws a name. Which term best describes the probability that Leticia's name is on the slip that is drawn?

   A. certain   **B.** probable   **C.** unlikely   **D.** impossible

28. Which geometric shape is defined as having four sides and four right angles?

   A. square   **B.** rhombus   **C.** rectangle   **D.** trapezoid

29. Which of the following is a divisor of 525?

   A. 2   **B.** 7   **C.** 13   **D.** 11
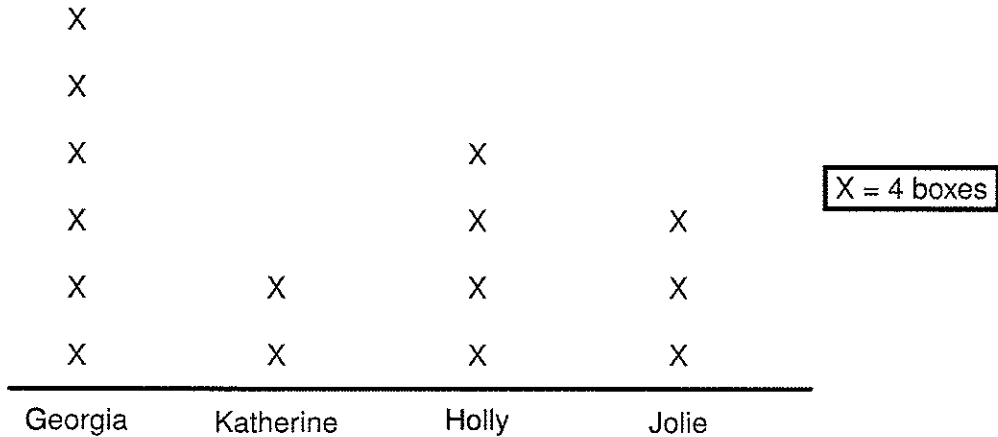
30. $32.3 - 17.56 =$

   A. 14.76   **B.** 14.74   **C.** 14.86   **D.** 14.84

31. The perimeter of a rectangle is 28 inches. Its width is 3 inches. what is its area?

   A. 33 in^2 **B.** 36 in^2 **C.** 27 in^2 **D.** 24 in^2

32. Girl scouts are selling boxes of cookies. The histogram below represents the number of boxes of cookies sold by each girl. How many more boxes did Georgia sell than Jolie?

```
X
X
X              X                       ┌──────────────┐
X              X           X           │ X = 4 boxes  │
X      X       X           X           └──────────────┘
X      X       X           X
─────────────────────────────────
Georgia  Katherine  Holly   Jolie
```

   A. 3   **B.** 6   **C.** 8   **D.** 12

33. Faheem plays basketball. In his five games this year, he scored 14, 8, 11, 5, and 12 points. What is the average number of points he scored per game?

    A. 9   **B.** 10   **C.** 11   **D.** 12

34. What is two-fifths of 15?

    A. 5   **B.** 6   **C.** 3   **D.** 4

35. $42 \times 18 = 54 \times$ what number?

    A. 14   **B.** 12   **C.** 16   **D.** 9

36. A room is 10 feet long by 7 feet wide. A designer has tiles measuring 5-foot by 2-foot and 1-foot by 1-foot, as shown. What is the least number of 1-foot by 1-foot tiles the designer needs to use when covering the floor, using as many of both types of tiles as necessary, without overlapping the tiles?
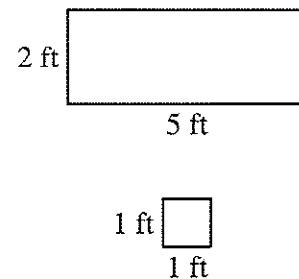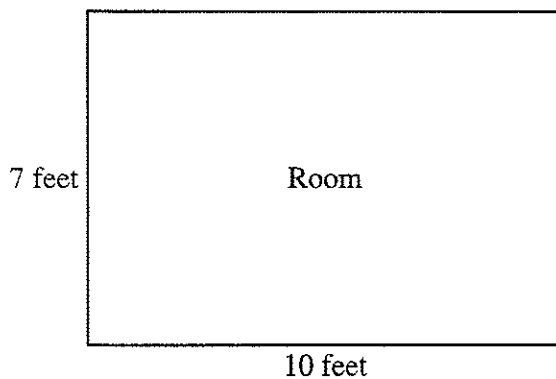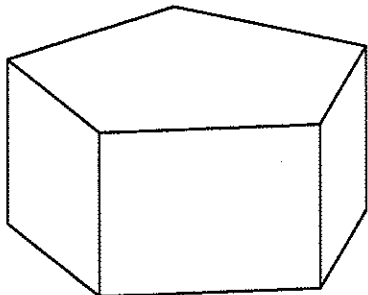

    A. 5   **B.** 2   **C.** 1   **D.** 0

37. A boat traveled from Port A to Port B in 36 minutes. On the return trip, the boat traveled three times faster. How long did the return trip take?

    A. 108 minutes   **B.** 72 minutes   **C.** 12 minutes   **D.** 18 minutes

38. A prism is built with regular pentagons as the bases. How many faces does the prism have?

    A. 7

    B. 5

    C. 10

    D. 12

39. Johannes has 53 ping pong balls. Each tube holds 7 balls. When as many tubes are filled as possible, one tube has fewer than 7 balls. How many balls are in this tube?

    A. 3   **B.** 4   **C.** 5   **D.** 6

40. In a survey of 100 students, 61 students like pop music, 32 students like country music, and 8 students like both pop and country music. How many like neither pop nor country music?

    A. 1   **B.** 2   **C.** 14   **D.** 15

Mathematics Grades 2-3

State Contest – 2022

Contestant Answer Sheet

PSIA
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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 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 2-3

State 2022

ANSWER KEY

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